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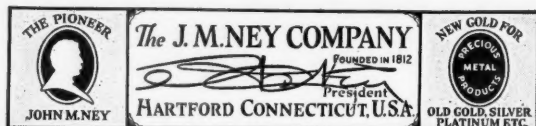
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The Piltdown Skull Again

The celebrated Piltdown prehistoric skull, concerning which volumes have been written since it was made known to the scientific world in 1913, is once more to the fore in a very interesting article in "Natural History Magazine," by Prof. Henry Fairfield Osborn.

It has always been a matter of controversy among anatomists and anthropologists as to whether the very anthropoid lower jaw belonged to the same creature as the fragments of the cranium found.



The original discoverer, Mr. Charles Dawson, made a second discovery in the Piltdown gravels, first reported in 1917, about two miles from the spot where the first find was made, of a lower molar tooth and some skull fragments. These newly found fragments, according to the opinion of Prof. Osborn, completely confirm the original claim

made by Dr. Smith-Woodward, of the British Museum, that the first found specimens all belong to one skull, and therefore that the creature this skull represents must have presented a decidedly anthropoid appearance.

Readers of the Digest will recall that one of the original restorations of the Piltdown mandible was made by Dr. J. Leon Williams, and exhibited before the International Medical Congress in London.

We herewith reproduce one of the most interesting of the illustrations which accompany Prof. Osborn's article.

A Visit to Guido Fischer

By **John Jacob Posner, D.D.S., L.L.B., New York, N. Y.**

Instructor of Oral Surgery, New York Homeopathic Medical College and Flower Hospital

The city of Hamburg, Germany, is always a wet and dreary place in November. The fog comes up from the Alster River and together with the endless rain, form a combination of dreariness which is hard to equal. On the day of which I write, the weather was true to form. This did not deter me in the least from carrying out my plans. I left my hotel at eleven o'clock, got into a cab and ten minutes later stood before a little black glass sign fastened to the outer railing of a fashionable house. With the rain sweeping me from head to foot I stood there oblivious to everything else in the world. For here was a legend I had crossed the ocean to read. The magic words stood out in gold letters.

PROFESSOR DOCTOR GUIDO FISCHER
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Satisfied, I opened the latch of the outer iron gate and sprinted up the garden path to the shelter of the house. I rang the door bell and waited. Despite the chilly day, I was warm and flushed with excitement. Many thoughts went flashing through my mind. I did not even know whether the professor was in Hamburg. Would he recognize me after eight years—how would the past war influence his welcome?

A nurse in uniform let me in and allowed me to drain carefully on the hall mat.

"Yes, Professor Fischer was in his office."

"Will you please take my card to him?" I asked. She disappeared through the door trying hard to suppress a smile at my moist appearance.

In a few moments she was back and I was ushered across some fine oriental rugs into a large and richly furnished reception room. From my seat near the window I looked across the room to a cabinet where were some carefully selected Chinese porcelains. The walls were literally covered with the works of old masters, and my impression was that no patient had reason to complain if compelled to wait amid such pleasant surroundings.

Suddenly a door opened and Guido Fischer came towards me. I recognized him immediately and in my delight at seeing him again shook his hand so well that little crackling sounds rewarded my efforts. The Professor was visibly pleased at meeting someone from New York, and in a few moments we were chatting away at a great pace.

Guido Fischer is a rather short and wiry man in the early forties. His head is small and bullet-shaped, and his hair is always closely cropped. He wears rather thick spectacles and through them you see his small, sharp-piercing blue eyes, which tell you at once of the profound mind behind them.

"Professor," I began, "you probably do not remember me, but in 1914 you came to America and gave a clinic on local anesthesia at the New York College of Dentistry. At that time, you removed an impacted third molar for me. I was then a senior student. Since your visit conductive anesthesia has found an important place in American dentistry. The main purpose of my trip to Germany was to meet you again and to learn, if possible, what further progress you have made in your life work of local anesthesia."

With this identification and explanation, Professor Fischer once more shook hands with me, but more carefully this time, and insisted that he recalled the incident of the tooth. He crowded me with all sorts of questions regarding his numerous friends in New York and we spent almost an hour together at this meeting. When at last I rose to go I took with me a most cordial invitation to visit the Dental College of the University of Hamburg, of which he was the professor of oral surgery as well as dean.

I stepped from the house in fine spirits. The rain was taking a well-earned rest, and up above the scared sun was making the best of its opportunity. Once more I unlatched the outer gate, but oh! the difference now. I was overjoyed at my warm reception, and the thought that here at last I was realizing what I had been so carefully planning for many years.

As I strode along towards my hotel, whistling a jazzy tune, I drew many bewildered glances from those who passed me by.

The following morning at 8.30 A. M., I took the trolley out to the Eppendorfer Hospital, where the Oral Surgery Clinic was located. When I arrived, Professor Fischer was already at work.

Besides being a master of the art of local anesthesia, Professor Fischer is such a gentle and painstaking operator that it is a distinct pleasure and privilege to watch him. The cases and clinic were so interesting and the entire faculty so friendly that I attended regularly thereafter, and two months passed before I finally took my unwilling departure.

As in the very beginning, novocain suprarenin is the anesthetizing medium in oral surgery at Professor Fischer's clinic. He informed me that he has been able to secure novocain in ampules all ready to be injected. They have remained sterile, and unaltered for months in this condition, and he expressed a preference for them over the regulation tablet form.

These ampules of novocain suprarenin solution are also to be had at present in this country. The great advantage of the ampule is that it delivers a sterile injecting solution all ready for use.

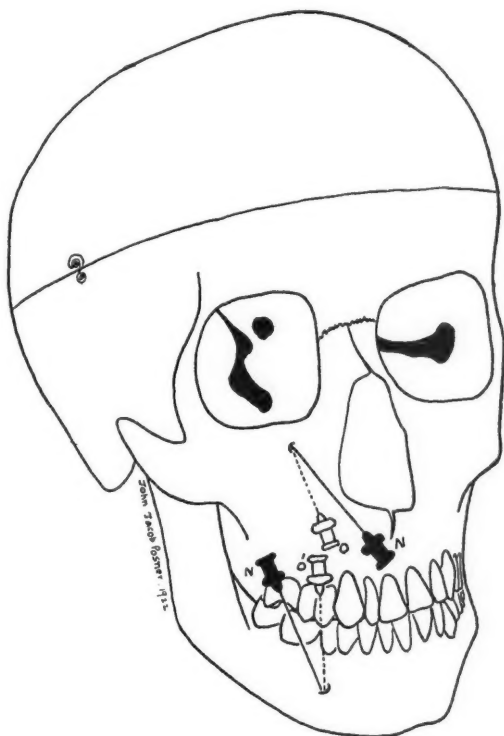
The armamentarium has also been somewhat altered. In his original technic, a 24-gauge needle $1\frac{5}{8}$ inches long was used for all conductive injections by Fischer. It is referred to as the No. 17, 42 mm. needle. This needle has been discarded for conductive anesthesia in the maxilla. In its place a 19-gauge Record needle 5 cm. long, attached to a Record syringe is employed. In subsequent visits which I made to the clinics of Partsch in Breslau, Williger in Berlin, Hans Pichler in Vienna, and many others, this needle and syringe were exclusively used for conductive anesthesia in both upper and lower jaws.

At this point the writer wishes to lay stress upon the question of the mandibular needle. The one in common use at present is 24-gauge in thickness and $1\frac{5}{8}$ inches in length. This is dangerously thin for this injection, as the portion beyond the hub must be completely buried to reach the mandibular foramen. No matter where the needle breaks, it is immediately lost to view, and with the greatest difficulty recovered. Besides the concern on the part of the unfortunate operator, one has only to witness the ordeal of the patient in order to have the broken fragment removed, to be convinced of the hazards of the thin needle. The heavy 19-gauge steel Record needle, 5 cm. long, referred to above, may be used with perfect freedom and safety, as it is practically impossible to break and lose it in the tissues during an injection. To the beginner, at any rate, such an advantage is indispensable. The contention of some operators that so heavy a needle is painful to insert and must cause great after pain is not borne out by clinical experience. If one is still tempted to continue the use of the thin needle for the conductive anesthetics, it is well to remember that the foremost oral surgeons of this country and Europe have discontinued it.

Professor Fischer has modified his technic for the infra-orbital

injection. Previously the point of insertion of the needle was distal to the canine apex high up in the lip muscles. The needle traversing these tissues was advanced upward and backward above the first bicuspid and came in contact with the bone for the first time at or near the infra-orbital foramen.

The altered technic is according to the anatomical studies of Dr. Harry Sicher of Vienna, and has been adopted by Prof. Fischer. The needle punctures the mucous membrane slightly distal to the central apex and comes into immediate contact with the bone. It is then ad-



vanced along the bone to the infra-orbital foramen. Besides the advantage of being in constant relation with the maxilla, the foramen is more readily accessible when the injection is made in this manner. Sicher has shown that the infra-orbital foramen faces toward the median line, and one has only to place two needles in the foramina, to observe that they cross each other at the centrals. The new position of the needle is shown on the accompanying drawing as N, and the old position as O.

In the lower jaw, the technic for entering the mental foramen has also been altered as a result of Sicher's anatomical studies. This foramen faces distally and is most readily entered by passing the needle forward and downward into the foramen from a position shown as N' on the drawing.

For the ordinary infiltration anesthesia Fischer avoids any pressure whatsoever. No attempt is made to force the anesthetizing solution beneath the periosteum at any time. The solution is deposited at the apex of the tooth and allowed leisurely to infiltrate.

It is not commonly known that the honor for the discovery of conductive anesthesia goes to an American. In 1885 this was first accomplished by Halsted. But it was not until 1914, that conductive anesthesia was given its great impetus, so that to-day it is indispensable to the doctor of dental surgery. It was in this year that Guido Fischer came to New York, and broadcasted this powerful weapon against painful dentistry in a series of clinics. Returning to his native land, he left with us a technic and a text book, which only grow in value with the passing years.

Knickerbocker Building.

The Marshall Islands

By Thos. J. McMahon, F.R.G.S., Sydney, Australia

In close proximity to the Gilberts and Ellice group, and to the north of Equator is the very interesting group of atolls, known as the Marshall Islands. They have an aggregate area of a little over 150 square miles. The atolls are very small islands, the highest not more than eight feet above sea-level. They are linked together, horse-shoe or circular fashion, as many as a hundred or more, which enclose great lakes called lagoons. There are forty-six of these lagoons, all deep, and the safest shelters for shipping.

For thirty years the group was owned by Germany. On the outbreak of war it was handed over to Japan, that nation now holding a mandate for its administration and progress. The mandate is not popular with the natives, who would have preferred British or American protection. The Japanese, however, hold high ideals for the management of the native race, though they are somewhat drastic in their methods of enforcing obedience to the ideals. The Japanese have instilled into the minds of the natives that Japan is one of the greatest of nations. Every Japanese official in the group has to be respected in a most effusive way. To use the word "Jap" instead of Japanese is an offense.

It cannot be denied that Japanese administration of the Marshalls has been humane, and the health of the people has been very liberally considered. Japanese doctors and dentists are constantly traveling about the atolls. The people attended pay if they can for services, but the administration does not enforce payment. Hardly a trader schooner in the group but carries a dentist. Whether they have toothache or not, the natives insist in having their teeth gold-stopped. Nothing is more fashionable in the Marshalls in native society than to have every tooth in front gold bordered. Japanese dentists carry complete outfits and set up in a native village for a month or more. In some instances the natives are wealthy, not with coin but copra (dried coconut), and the dentists are paid in bags of copra, a ton of this useful commodity bringing fifty dollars, and seventy corn bags going to the ton. A dentist will in order to attract his customers sometimes set up his machinery and chair in an open spot, the middle of a street, or a village green, and with a subject in the chair will carry on his work in the presence of hundreds of admiring and interested natives.

The Japanese administration has a fine modern hospital at Jaluit, the capital of the group, and here any hour and any day hundreds of natives, men, women and children can be seen being attended to by doctors and nurses. Since 1914, when the Japanese took charge, the health of the native people has improved wonderfully. In 1914 the native population was less than 10,000; it is now nearly 12,000.

The Japanese have Spartan ideals in looking after the natives; they consider if they are properly doctored and made strong and vigorous, they should in return work long and well. In consequence the natives have increased the number of their coconut plantations, and the yield of copra is just about double what it was in 1914.

The natives are very interesting—the group is a place of paradoxes. In the Marshalls the woman is the man; that is, she is recognized as the superior being, and is treated as such. Contrary to the customs of other Pacific Islands, here it is the women who have an easy time. She commands all the respect, and gets all the attention, and it is her name that passes on to the family. It is the woman who asks the man in marriage, but the man must do all the courting, and very affectionate and attentive he must be. Inheritance is on the side only of the woman; man is in short a mere servant and necessity for the pleasure and comfort of the woman. In the home life he cooks the food, washes and feeds the baby, dresses the children, not only makes his own clothes (in Japanese fashion) but often cuts out his wife's dainty garments. He works and earns the family food supplies, attends to the garden, and carries the bundles. A man may have a cheap shirt, but his wife and daughter must have silk dresses and expensive

laces; it is quite a common occurrence for a wealthy islander to give traders five to ten dollars a yard for lace.

The women of the Marshalls do nothing; they sit about and gossip and braid their luxuriant tresses; seldom is a woman seen without hair at least three or four feet long, very often it reaches to the heels, and is oiled and combed with persevering application during every hour of the day. These women are selfish from so much care and adulation; they often neglect their children, but whatever their faults, the husband is always gallant—he takes the blame himself. From boyhood to grandfatherhood men are taught, and ever reminded, woman is the superior, and he must give the sex unceasing attention and respect. And yet, in all the group will not be found an unhappy married man, and domestic quarrels are quite unknown. The husband is the lover during the whole of his married life.

At present the big industry of the group is the making of copra, and cocoanut plantations are found on every atoll. The copra is sun-dried, and is reckoned in American markets—to where most of it goes—the best and most oily copra of the South Sea Islands. The Japanese have introduced other industries, and are now encouraging the natives to make Panama hats from Pandanus, and cocoanut palms. These hats are beautiful in texture, and washed or sponged with salt water always have a fresh appearance. Another industry is the making of rope from cocoanut fibre. The secret is known only to the natives, but this rope is practically imperishable, and even salt water does not destroy or rot it. In building their houses, and their great deep-sea canoes, not a nail is ever used—everything is tied together with cocoanut fibre string or rope.

These native people have, too, the secret of several wonderful and permanent dyes, but so far they have refused to divulge this secret to the Japanese. In olden days the men and women wore as clothing beautifully painted cocoanut and pandanus mats. The Japanese are endeavoring to start an industry with these mats, which undoubtedly would be popular as wall or floor ornaments in houses.

Japanese traders have set out to capture the native tastes by gaudy trade goods. The native houses are ornamented with Japanese pictures, and particularly Japanese almanacs. Highly colored photographs of the Japanese Royal family are now conspicuous in native drawing rooms.

The men and women have taken to the bright kimonas of the Japanese, the men wear great quantities of Japanese jewelry, the women do up their hair "à la Japan" and carry Japanese fans. The Marshall Island youth swanks around as a Japanese cadet, in a smart Khaki uniform and chic cap.

There is a great commercial future before the Marshalls, and with the energy displayed by the Japanese there is not the least doubt the group will be in another ten years a "New Japan."

An Interesting Case

By H. C. Sturtevant, D.D.S., Linesville, Pa.

Recently a very interesting case came to my attention for treatment—a man perhaps 40 years of age who, about eight or ten years ago had an upper left lateral filled. At a taffy pull some few weeks ago the filling came out and later on he came to me to have the tooth refilled. While preparing the cavity, I discovered the pulp devitalized and a copious flow of pus came out through the opening into the root canal. I washed it out, put in a treatment, sealed it up and told the patient to await developments for a few days.

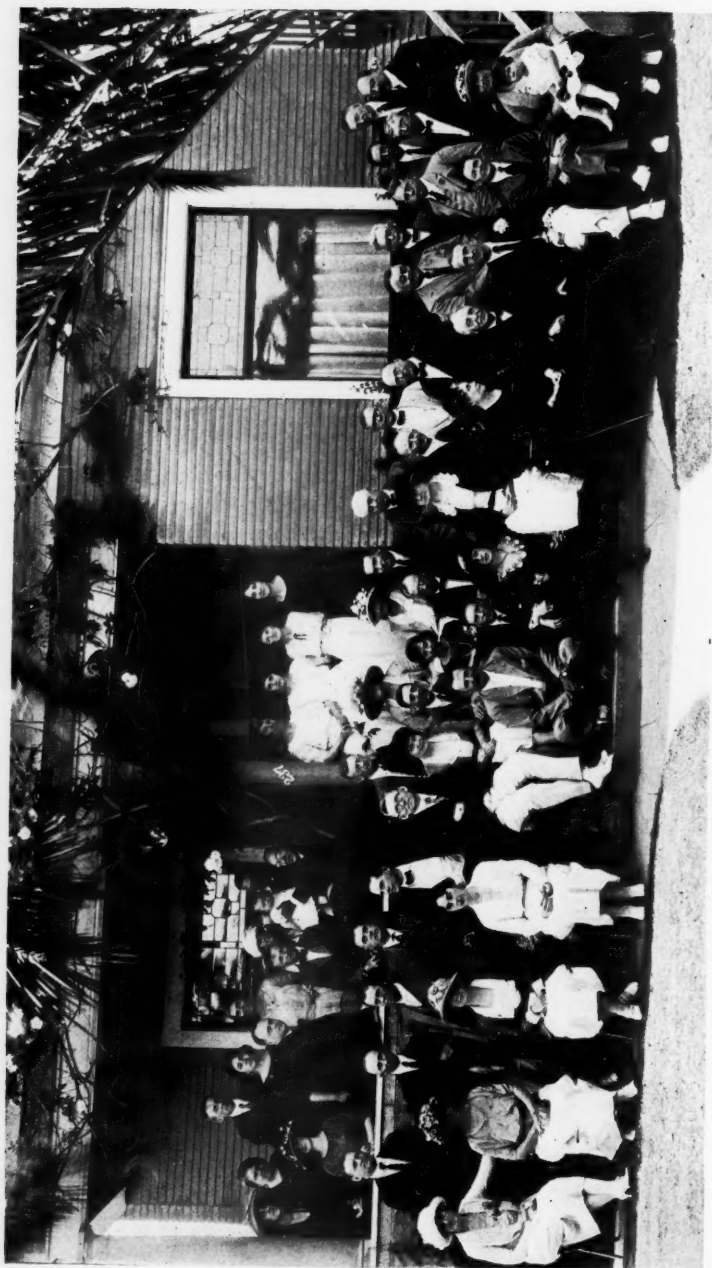
On returning ten days later, when I removed the stopping, quantities of pus ran out through the opening into the mouth. On closer examination I found a soft spot, perhaps the size of a nickel, about one and one-half inches back of the anterior teeth, and a similar soft spot under the lip, high above the root of the tooth.

When pressure was applied on outside of jaw, the soft spot on the roof of the mouth would bulge down. I immediately extracted the tooth—under local anesthetic—and an abundance of pus poured out through opening. I then made an incision in the roof of the mouth about three-quarters of an inch long, went up in there with a curet and scraped out quantities of necrosed bone, following which I cleansed it, using antiseptics with strong air pressure and an atomizer and packed it with one-half yard of gauze one inch wide.

On his return two days later, I took an X-ray picture which showed the right lateral was also badly involved, necessitating extraction. This I did, thoroughly curetting the socket and treating to insure against further infection.

The above case has been intensely interesting to me, especially since I had a similar, though much worse, case about a year ago, where practically the whole roof of the mouth was involved and had to be curetted away. This condition was caused by upper left lateral from which the nerve had been removed, the root filled and the tooth crowned at the same sitting.

I have been wondering whether the above conditions are commonly found, and would like to hear from other dentists on the subject.



National Society of Denture Prosthetists, Long Beach, Cal., July 9, 1922



The Visit to Dr. Snow

On Sunday morning, July 9th, the members of the National Society of Denture Prosthetists, and a number of their Los Angeles friends assembled at the Hotel Hayward, and were provided with means of conveyance out to Long Beach where the greater part of the day was spent with Dr. and Mrs. George B. Snow, of 237 Kennebec Avenue. Arriving about 11 o'clock the host and hostess were ready to greet the visitors, the Doctor appearing in fine spirits, which continued throughout the day. Shortly after arrival all assembled in the yard and had a group picture made. Dinner was then served in true California style.

At the close of the dinner our President, Dr. Stansbery, paid a notable tribute to Dr. Snow in recognition of his great services to dentistry, and gave expression to the esteem and honor in which he is held by the profession generally. On behalf of the Society a beautifully engraved silver vase was then presented to Dr. Snow. With evident emotion the Doctor responded, expressing profound thanks and appreciation for the honor paid him and Mrs. Snow.

"Talks" were made by a number of the members present, also by some of the Los Angeles boys. There were several songs and readings which added much to the enjoyment of everyone. All in all it was a remarkably pleasant day.

That Mrs. Snow is a wonderful hostess was shown by the grace and kindness with which she entertained the entire party.



"Popular Dentistry"

By Aaron H. Stone, D.M.D., Newburyport, Mass.

Dr. M. A. Munblatt, in his recent article in the *DIGEST*, deserves the respect of every practitioner who has the welfare of his patients at heart. He has stated that which we all know, but did not have the courage to openly declare.

But, he blames the public rather than the dentist for the poor service that is rendered to patients. I, therefore, an "embryonic practitioner," wish to take issue with Dr. Munblatt on this point only.

My assertion is that the dentists are at fault and not the patients. When we are graduated from college we all have high ideals and the best of intentions to serve the public to the best of our abilities. But how astounding it is to enter the offices of long-established practitioners to find that their work is considerably inferior to what we are capable of doing. How distressing it is for the young dentist who has been taught and preached to, to develop an "aseptic conscience," to see old practitioners attempting to fill root canals on lower posterior teeth without a rubber dam, and caring very little whether or not the apices of the canals are properly filled. Do you think it was a source of inspiration to me, when I complained that after I have spent time and energy perfecting myself on conduction anesthesia that I cannot get more than a dollar for a single extraction, to hear a dentist say, "When they come to have a tooth pulled, give 'em a shot of dope and yank the old thing out!" Well, that is about all most dentists are doing, "yanking 'em out."

Then, why blame the public for seeking "no pain and cheap" dentistry? It's human nature to do so. Each and every one of us is always trying to get the most at the least expense. Educate the public, you say, but how?

The only way to educate the public is to send them to college. The public knows too much about silver fillings and gold caps and "nerves," as it is.

Is it then necessary for the patient to tell the dentist that an inlay and not a crown is indicated? Is it then necessary for the patient to know that he is suffering from an acute abscess and not pericementitis; or that he is suffering from hypermia of the pulp and not pulpitis? Do you expect the patient to stand over you with an axe saying, "I know that pulp can be saved and don't you dare devitalize it!"

Assuming that the patient knows all that, would that cause you to do good and aseptic dentistry if you haven't developed an "aseptic conscience?"

Does the physician tell his patient that he is suffering from Bright's

disease, or that the trouble is at the cardiac end of the stomach and not at the pyloric?

Would it help a mentally deranged patient to know that his case was diagnosed as manic depressor?

The patient enters our office and offers his body for correction. It is, therefore, up to us to correct it in the best manner possible. If an inlay is indicated insert one; if a porcelain jacket crown is indicated proceed to make one, and if devitalization is indicated, devitalize and charge accordingly.

But how about the quack dentist who does not do the right thing, and whose prices are considerably lower than yours? How are you to combat him? As long as quackery is permitted by law it will be practised as such, and patronized by a great many. The only way to get rid of quacks is to have the public turn away from them; and the public *will* turn away when our services will be so markedly superior that the patients themselves will detect the difference.

Never mind educating the public, they have enough worries of their own, besides trying to solve dental problems.

Do good and conscientious dentistry, and if you will teach the patient the proper method of using a toothbrush, rather than telling him the mysteries of "nerves," you will have accomplished a great deal toward relieving suffering humanity.

A Plea for Careful Dental Examinations

By S. G.

An individual desired to have his teeth examined and entered the first dental office he approached, which happened to be in New York. The dentist "examined" the patient's mouth and informed him that he required only one filling. Wishing to confirm this dentist's hasty judgment, the patient proceeded to a second dentist. Here he was informed that there were four cavities in his teeth including a cavity on the lingual surface of a central incisor which could only be seen with the aid of a mirror. Astonished at this difference of opinion, the patient consulted a third dentist, who declared that the previously mentioned central incisor was in perfect condition; although, I repeat, it contained a cavity plainly visible with the aid of a mouth mirror. After these enlightening adventures, the patient was introduced to me and I examined his mouth. With an ordinary explorer and mirror I discovered five real live cavities.

It is unfortunate when some of our work misses the mark, but is it not more of a disgrace when a mere examination results in such wide divergence of opinion, and all due to negligence? But is it due to

negligence alone? I believe there may be another motive to consider. Some dentists harbor the notion that by telling the patient he needs but a little work, which requires but little expenditure, the patient will agree to have it done; after the initial operation has been completed the patient is informed of additional requirements. If, on the other hand, the complete results of the examination were disclosed, the patient might be frightened off, never to return.

In conclusion, I wish to emphasize the fact that in justice to our profession, in justice to our patients and in justice to ourselves we owe every patient who enters our office as thorough an examination as is necessary and a full report of the same.

Hygeia Visit to Mulberry Bend



(c) Underwood & Underwood

Something for nothing attracted these sloe-eyed youngsters of Mulberry Street, and they found that the "something" was tooth paste, tooth brushes and other helps to health and hygiene. Just part of a campaign by the Mulberry Street Health Center, A. I. G. P., to improve child health in that thickly-populated district.

A Method of Retaining Radium in Position in the Treatment of Cancer and Allied Conditions*

By David F. Heron, D.D.S., Detroit, Michigan

The radiologist often encounters considerable difficulty in retaining radium in a definite position during treatment. This is especially true in the treatment of lesions of the mouth and surface wounds of the face. During the active period of development of modern radium therapy, up to the present time, the methods of dosing and filtering have attracted primary interest, while the technique of application has but slowly, and only in quite recent years, begun to appear as a factor of importance. How little this latter question has kept pace with the general development of radium technique will be clearly shown by a critical examination of the methods of application hitherto described in the literature of the subject, and this latter statement is found to be especially true in our American writings.

My interest was attracted to the subject by observing the work of Dr. Paul Eisen, and noting the difficulty of proper retention over a period of several hours and in the adequate protection of the normal tissues.

In order to gain a better mode of fixation, we began a series of experiments, using a modelling compound which is used by dentists for impressions in dental prosthesis.

We later discovered that this idea was first suggested by Lars Edling¹ of the Department of Medical Radiology in the University of Lund, and was brought before the Third International Congress of Physiotherapy at a meeting held in Paris in 1910. He suggested its use in the orbit, mouth, face, pharynx, and genital organs. Nothing further was done and he himself put aside this particular technique for five years. An interesting report was submitted at Memorial Hospital, New York, by Failla, in 1920. Until this time nothing had been printed in America concerning the subject, and as far as we can learn nothing has been published since then.

As a result of our experiments we found that radium can be readily and accurately applied to the face, head, oral cavity and other external regions of the body by the use of this method. The great majority of tumors of the face and exterior surface of the head, in consequence of their own form and the usually firm foundation upon which they grow, afford clear and well defined impressions which facilitate an exact localization of the radium in the applicator. It is a striking fact that the irregularly curved surfaces of the face, which

* From the Dept. of Dental and Oral Surgery, Jefferson Clinic.

¹ Edling—*Acta Radiologica*, VII, p. 60.

render difficult an application by means of sticking plaster, etc., are, on the contrary, of assistance when the plastic method is used, since the projections and depressions afford excellent points of support in the fixing of the applicator.

To start with, the modelling compound is heated in a basin, keeping well under the boiling point, water being used to dissolve it. In a very few minutes the modelling compound becomes molten. It assumes this state at a temperature easily tolerated by the hands of the operator and the body of the patient, whatever part it may be. It is then

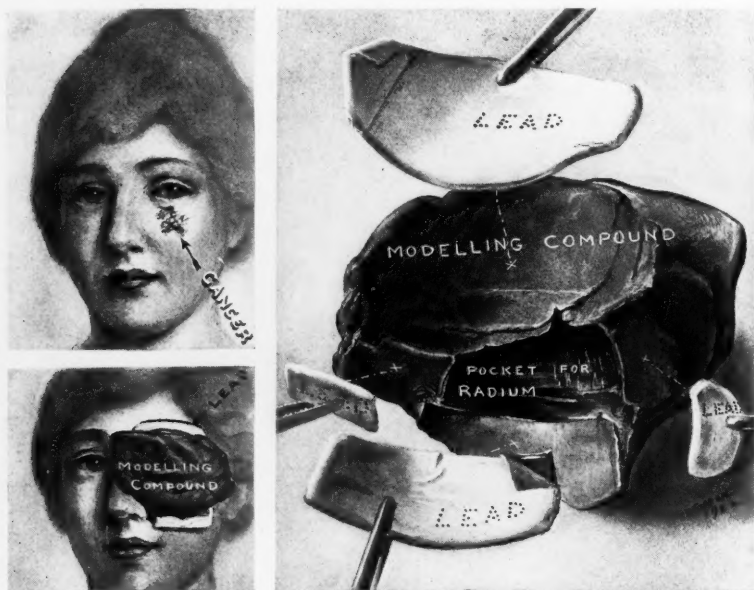


Fig. 1. (a) Epithelioma beneath orbit. (b) Presents the modelling compound impression with the pocket excavated and the adhesive taped lead plates ready to be placed in position. (c) View of the applicator in place.

applied in sufficient size to cover the cancerous growth as well as the surrounding healthy tissue. More compound is added where bulk or extra thickness is desired. Lead plates covered with adhesive tape are placed in the compound, surrounding the spot over the diseased area, for the purpose of protecting the healthy tissue. Before its removal, however, the compound is carefully chilled. This can be done, if the work is being carried on in the mouth, by a stream of cold water discharged from a bulb or syringe; if on an external surface, by means of cold compresses.

The impression should present an exact negative likeness of the object, and with the assistance of body land marks is capable of being replaced so that it becomes possible to apply the radium over the area to be treated in the exact position desired.

We found that where the tumor itself is not visible upon the im-

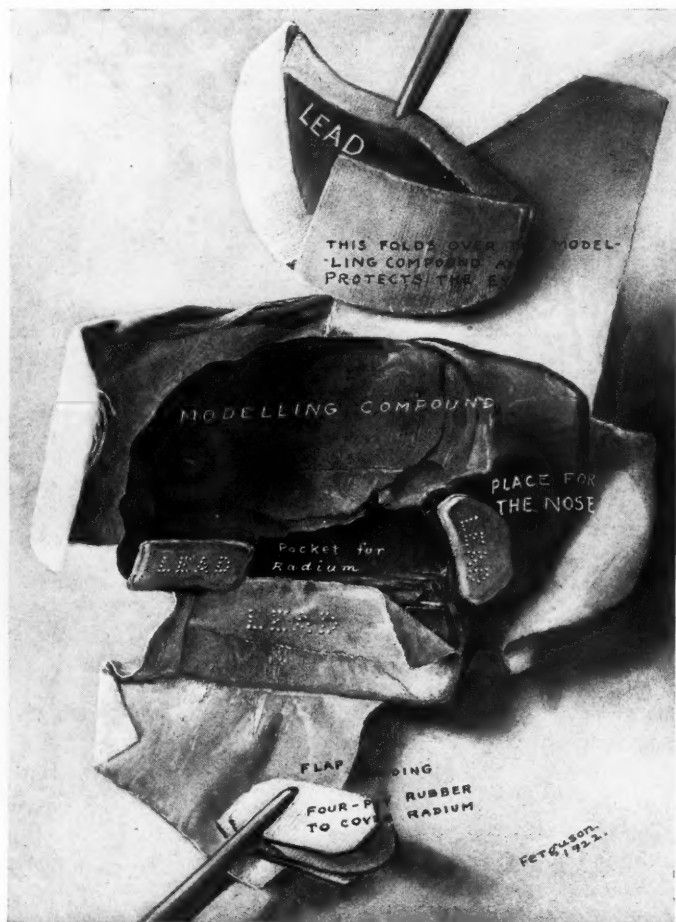


Fig. 2. Presents a view of the case illustrated in Fig. 1, upon removal of applicator at end of treatment.

pression, its exact location can be determined by the use of dyes of a non-irritating nature, removed partially at least, with the impression, marking the spot to be treated. For this purpose a commercial product

used by dentists for separation in cast work can be used to advantage. Dr. Edling in his research used an aniline dye.



Fig. 3. (a) Epithelioma of tongue. Superior surface of modelling compound impression of teeth, with lead plates pulled back in order to show the position of the needles. (b) Inferior surface of modelling compound impression to show view from beneath. (c) Applicator ready for use with all parts in position. The lead plate shown was used inside the lips but external to the teeth.

A pocket is next excavated in the compound directly covering the lesion under treatment. This can be done quite easily and to any depth required by gently heating the compound over a Bunson flame and excavating with a spatula or knife. Within this cavity the radium needles are placed, and in order to insure constant control the capsules containing the needles are equipped with a thread which is allowed to hang alongside the impression. The compound can be lightly heated to receive them or the needles themselves can be very carefully heated in order to be securely imbedded. Over these, rubber, cork, or even modelling compound media is adjusted. If the latter material is used the process becomes very simple, requiring only a warm spatula to spread the compound over the needles. The impression is now returned to the affected area. It assumes this position very naturally, being an exact copy of the parts to which it is applied. Where the operation

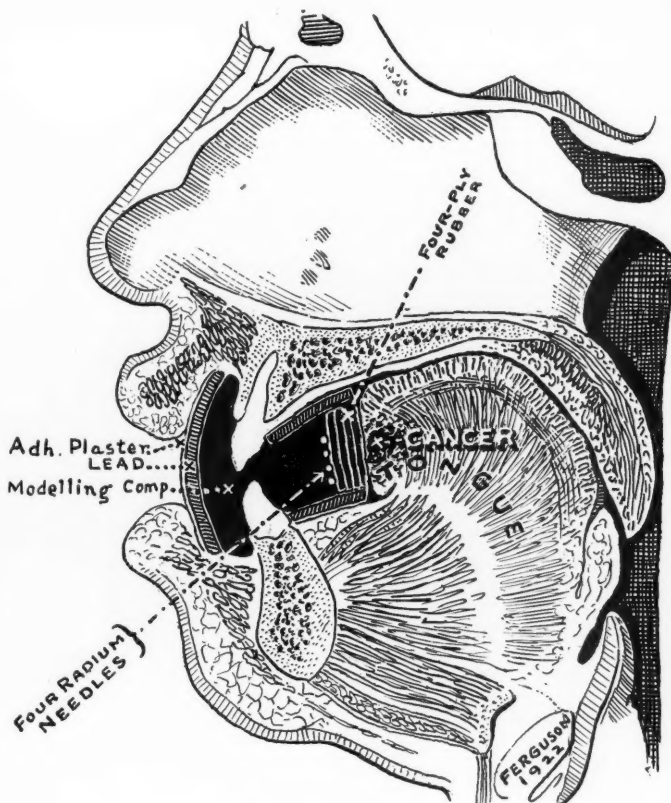


Fig. 4. Cross section of applicator for cancer of the tongue. Showing the relation of the needles to the area to be treated, also the protection afforded the surrounding tissue.

is to cover a considerable length of time, a small bandage may be used to stabilize the applicator, doing away with the irritating adhesive plaster and taking but a few moments to adjust. The treatment can now be considered under way.

Foilla states that the absorbing power of the compound is such that one centimeter will reduce the radiation of a silver tube 0.5 mm. in thickness by 40 per cent, and that of a lead filter 2 mm. thickness by 28 per cent. The constituents of modelling compound are chiefly aluminum and magnesium oxides, together with silica, ferric oxide, and calcium dioxide. These metallic ingredients, according to Edling, from the point of view of radium technique, are to be regarded as a great advantage, in that the aluminum gives a relatively small secondary

radiation and it is believed by him that the chemically related magnesium behaves in much the same way.



Fig. 5. Impression of superior surface of the ear and surrounding tissues for application of radium in region.



Fig. 6. Presents the impression shown in Fig. 5 in place.

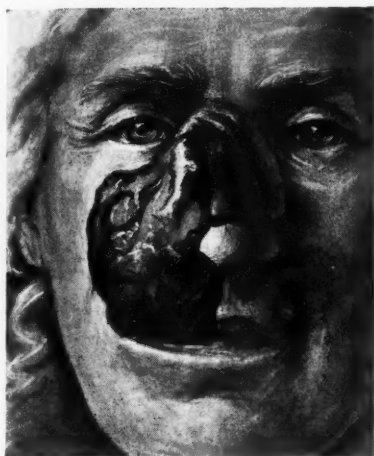


Fig. 7. Applicator of modeling compound showing how the landmarks of the face can be utilized with this method.

Fig. 8. Presents the impression as it appeared after completion of the treatment shown in Fig. 6.



This subject should be of special interest to the dentist today, in view of the fact that recent observations upon the use of radium emanation indicate that there is a possibility of employing it in the treatment of dental abscesses. Experiments which have been conducted at Geo. Williams Hooper Foundation for Medical Research, and at the College of Dentistry of the University of California, confirm the value of radium in this connection. The subject is also of interest in showing where the dental surgeon's art and science can be further employed in the healing art.

2201 Jefferson Avenue.

DENTAL LAWS

Dental License Requirements in the United States of America

By Alphonso Irwin, D.D.S., Camden, N. J.

GENERAL REQUIREMENTS

1. All applicants for a dental license must undergo a practical and theoretical examination. (Exception: Reciprocity candidates take a practical examination only.)

2. All examinations and writings must be in the English language. (Exception: The Spanish language is allowed in the Philippine Islands and Porto Rico.)

3. The applicant for a license must have reached the age of 21 years or over.

4. The candidate for examination must possess a good moral character, certified to by two or more licensed ethical dentists, who must be well acquainted with the applicant; under reciprocity the endorsement of two resident freeholders is required.

5. New laws require four years' course accredited High School education, or its equivalent, or a certificate from the State Supervisor of Public Education, for matriculation into a dental college; also a four years' graded dental course in a "recognized dental school" (Class A or B College, or Department of a University).

6. All Boards require a dental degree from a reputable college, countersigned by the Secretary, Registrar, Dean, or Provost. Class A and Class B Dental College Diplomas are specified by some Boards of Dental Examiners.

7. A recent unmounted cabinet-sized photograph, countersigned by the applicant and attested to by the photographer or a Notary Public, or by the Dean or Secretary of the college must accompany the diploma.

8. The candidate must present a properly filled out and attested application, which will be furnished by the Secretary of the Board upon request of the candidate.

9. All foreign credentials should be validated by the Ambassador of the country represented, resident in Washington, D. C., or the Consul located in New York City, representing the applicant's native land, and a certified English translation of the same supplied.

10. Credentials must be presented to the Secretary of the Board

at least two weeks prior to the examination, including all licenses, if any, in possession of the candidate.

11. The license fee (ranging from \$10.00 to \$50.00, according to the State), should be paid by certified check or post-office money order, or cash, which is not returnable, and *must* accompany the application.

12. If credentials are accepted, the candidate will be notified to that effect by the Secretary of the Board of Dental Examiners, to whom application is made, who will also supply details as to when, where and how the applicant shall appear for examination.

13. The candidate must present himself at the proper time and place to undergo a practical and theoretical examination before the Board of Examiners, upon subjects usually taught and tests applied in a standard dental college. The secretary will forward necessary details in regard to the same. If this examination is satisfactory, a license will be issued in due time. Re-examinations are allowed for those who fail to pass upon the first examination. A fee, usually of ten dollars (\$10.00), is charged for a third re-examination.

14. *Registration:* All dentists must register in the United States of America—(a) with the Secretary of the Board of Dental Examiners in the state wherein application is made for a license to practise dentistry; (b) a licensed dentist must register with the official designated in the State Dental Law of the state wherein the applicant desires to practise dentistry (usually with the County Clerk of the County in which he locates to practice dentistry); (c) a licensed dentist must re-register or renew his license annually with the Secretary of the Board of Dental Examiners, or according to the provisions for registration in the Dental Law of the State wherein he practises, and must pay the specified fee therefor. Some states, however, do not require annual renewal of licenses, while a few require biennial registration, or, at least once in three years as the Board may require.

15. In the United States of America, owing to frequent changes being made, we caution candidates to apply directly to the Secretary of the Board of Dental Examiners officiating in the State, Territory, or Island wherein the candidate desires to secure a license to practise dentistry, for application blanks, forms to be filled out, and full details to be observed in regard to the examination and manner of procedure. Such application should be made in ample time before the Board meetings and the examinations take place.

16. Dental Examinations are conducted immediately after the dental college commencements, in each State usually, in this country. Some State Boards also conduct a Fall or Winter examination, and a few states have both Fall and Winter examinations. In a very few states, special examinations are arranged to take place after special

notices are sent out. All the State Boards of Dental Examiners appear to hold examinations the last week in June, or the first week in July, except in the territories and Island possessions of the United States of America. In a few states, where the Dental Examiners are present at the final college examinations, they may occur in May or even some other month—the usual schedule for semi-annual examinations being May and November, June and December, including also the Philippine Islands; August and February in Porto Rico; January and July in Alaska and the Hawaiian Islands.

17. The subjects for examination include: Operative and Clinical Dentistry; Prosthetic Technique; Crown and Bridge Technique; Operative Technique; Oral Hygiene; Dental Anatomy; Orthodontia; Oral Surgery; Physics, Biology, or both; Chemistry (Inorganic, Organic, Physiological); Metallurgy; Technical Drawing; Anatomy; Histology; Pathology (General and Dental); Materia Medica; Bacteriology; Physiology; Dental Rhetoric; Physical Diagnosis; Anesthesia; Radiology; Jurisprudence; Dental History; Ethics; Economics.

19. The Practical Requirements vary; a few states publish their tests; many Boards announce their tests prior to the examination; a few make them known on the first day of the examination. The Boards of Dental Examiners include the practical tests usually exacted by the standard dental schools at their final examinations.

20. The standards established by the Dental Educational Council of America and the National Association of Dental Examiners, are authoritative in the United States. They are accepted by many of the State Boards of Dental Examiners.

21. The maximum standard of dental license requirements in the United States of North America are stated in this summary. Any deviation therefrom must be obtained from the Secretary of the *State Board of Dental Examiners concerned*.



DENTAL ECONOMICS

The Neglected Side of Dentistry

By George C. Drinkwater, Havre, Montana

One of the hardest things that confronts a professional man is the fact that he does not obtain as large a return from his business as he expected to get at the time he started into it. The return a professional man should get was once given to the writer by a small-town doctor who evidently had obtained it. "One should get enough in real dollars and cents to pay his expenses, be able to own some property, attend clinics, an occasional post-graduate course, rear, clothe and educate his family, if he has one, and be able to retire and enjoy life when he is old."

In shorter terms, the doctor's idea was to be the equal of the better class of people of his own community and enjoy the same privileges. There are any number of dentists, doctors and men of other professions who have worked hard at their chosen line of work for years and are not as well off as their neighbors who are laborers and followers of the various occupations.

The real reason for this is sometimes hard to find, but a careful search very often reveals that old familiar story that Doctor So-and-So has thousands of dollars on his books and quite often very few in his pocket.

Business men expect to have losses through bad accounts that cannot be collected, but they get around it usually if they stay in business very long, by adding them to expenses and eventually getting it from those who do pay for what they get.

In finding out why one does not get the accounts paid up as they expected, it is usually a good thing to see where the real trouble lies, and a careful study of that particular phase of the business discloses quite often the fact that the blame lies very often with the dentist as well as with the patient.

What people expect from a dentist is sometimes quite different from what they get. And that there are real dollars and cents involved in the transaction, or whatever you may call it, sometimes does not seem to be considered by the patient until you are finished, or sometime during the work, when it is suggested half-heartedly to him.

One very important suggestion is that of a definite policy. Have you any definite policy concerning your business? Most dentists have when it comes to doing work on the patient, certain methods being followed in doing certain things, certain materials used and results obtained from the work are expected to be along a definite, well defined idea, expressed in the finished product.

Have you a definite policy? By that is meant also in the matter of getting your money for your labor. The workman works for a certain fixed amount, gets it at a definite period, or he labors elsewhere. The dentist should be able to regulate the financial part of his business, and if he cannot, can he expect others to do it for him to his own personal advantage?

If a dentist should undertake to reduce to writing what his policy would be in relation to the business end of his profession, certain things would probably be taken into consideration, such as methods employed by others in such matters, careful consideration of whether he considered that his business should pay some definite amount, if he was really considering the business side of his profession, from a business standpoint.

If your own business or profession has a real business side to it, would it not be better to conduct that part of it in a real business way along certain definite legal and business-like lines, or should you conduct it in a haphazard manner because a brother dentist does, or precedent seems to dictate to you that that is the way it should be done? A bank would have a very definite policy in its business dealings with you, and the date of payments or payment of any obligation you had incurred would be a definite time and for a certain definite amount or amounts, and your imagination on such matters would be given very little, if any, leeway.

With such a consideration to use as a precedent or talking point with a patient, are you not morally and legally allowed such a protection for yourself, or is your idea of ethics so warped and far-fetched that you do not feel able for any reason to use a definite idea in the business part of your policy?

If a successful man in another business or profession would give you his real secret of success just from a pure business standpoint, would you expect to receive certain definite ideas, based on sound principles and carried out as far as was legally right, or would you expect to get some wavering, faulty, slipshod manner of doing it? You must decide for yourself where the answer lies. Another thing in considering a definite policy would be as to who ran your office, you or the patient. Naturally you would say yourself, but if you looked at things from a different angle you might sometimes change your mind.

Who runs your office? Starting out with the natural assumption

that you do yourself, it might be well to consider some things that have happened to you or to others.

(a) After you have completed a certain amount of work at a previously agreed upon price, when you have finished, the patient pays for part of it, or perhaps none of it, leaves your office and you with the expectancy that maybe in the near or distant future you will be compensated for it.

(b) A patient does not return after you have partially completed his work, does not pay for what has been done, pays no attention to your letters or statements sent by you in your efforts to get your just compensation for what you have done.

(c) Another bad one occurs when a patient by reason of position (real or fake), pure bluff, shopping ability or other means, dictates prices, terms and time of payment to the dentist.

(d) You make your price the same as another dentist does, even when you feel in justice to yourself the price should be higher, because the patient says so, or because you fear the other fellow may get the work.

Considerably more might be added to this, and the real remedy lies in the determination by yourself as to who runs the office you are occupying, you or the patient!

(To be continued)

One Way to Combat the Quack in Our Profession

By J. O. Crenshaw, Ft. Worth, Texas

After 25 years in the practice of dentistry I have seen ethical and unethical men of every type, from the old straight-laced fellow who was afraid to let his name be called in public for fear of comment, to the fellow who claims to do everything in a superior way for a mere bagatelle.

Today is a day of advertising in every line. The public is hungry for information on all subjects, especially those pertaining to their health and well being, and if they are not given the right information from men who are conscientious and capable, they will get it in another direction—much to their detriment—from the quack.

A certain prominent Fort Worth minister said in regard to the Sunday Movie: If I cannot interest them more than the picture show, then where will we expect them to go—to the picture show or to church? So it is with reading matter; if they cannot get the proper beneficial reading, they are liable to read trashy stuff which will not

only be a detriment to themselves but a positive detriment to our worthy calling.

We are thankful to our Heavenly Father for that broadminded 20th Century man that the dental and medical professions are turning out from our colleges, and the time is not far distant when a man, if he is exceptionally proficient in a single line, can let the public know it without causing thousands to suffer and die before they can receive the benefit of his professional skill and knowledge.

We are also truly thankful that that old spirit of professional jealousy is dying out and we no longer retard progress in our attitude toward our fellow man, but all rejoice in the success and up-building of our brother. As an example of the growing popularity of educational knowledge, the Health Commissioner of New York City said:

"I am against that feature of medical ethics which will not allow the physicians to advertise. Publicity, if properly given, would wipe disease off the face of the earth." At a luncheon of the Advertising Club, he said that "he sometimes thanked the Lord that he was not a member of the Academy of Medicine, for in that case he would have to remain silent about disease and its cure." Passing to the case of Dr. Lorenz, he said, "that newspaper publicity brought to him 35,000 patients for counsel and treatment, not because just as able treatment could not have been given by American physicians, but because a false idea of ethics had kept a knowledge of their ability from the sufferers.

"The position of the regular medical code, against virtually all advertising by members of the profession, has undoubtedly gained strength by reaction against the kind of advertising too often indulged in by a class of men who suffer no injustice when they are described by the plain term 'quack'. Newspapers are sometimes blamed by physicians for admitting any medical advertising at all, though few are aware of the amount of objectionable advertising of this class which any respectable newspaper of wide circulation could get at high prices, but refuses."

Above article shows how this poison is yet affecting some sections, but which might rapidly change.

We are also quoting Dr. W. O. Talbot in an article from the Fort Worth Press:

"Diseases entering the body through the mouth can largely be prevented by mouth sanitation. Conditions in unclean mouths are favorable to the growth of bacteria in the mouth, which, in turn, produce bleeding and diseased gums, pyorrhea, decayed, aching and abscessed teeth and infected tonsils. Under these conditions the bacteria and their toxins easily enter the body through

the lymphatics, the blood stream and the digestive tract, producing disease in such organs and tissues in which they may chance to lodge or take hold. The more common and serious diseases produced by such sources of infection are those affecting the heart, lungs, kidneys, stomach, muscles, nerves and eyes.

"During Health Week each individual in the State should make, or have made, an inspection of the mouth, and put it in the best possible sanitary condition. Those responsible for children should see that they also have a thorough dental cleaning at least once a day. Such cleaning is best done with a well selected toothbrush loaded with a paste or powder. The bristles of the brush should be thrust well between the teeth which are scrubbed clean with the ends, as the sides of the bristles massage the gum without injury. Every part of the crowns of the teeth should be brushed thoroughly, requiring ten to twenty minutes a day, which will prevent destruction of teeth through decay and maintain the health of the investing tissues.

"Toothbrush drills and instructions in mouth hygiene should be held every day in every schoolroom in Texas. The co-operation of dentists, physicians and nurses should be sought by teachers and parent-teachers' clubs in carrying out this work. As evidence that mouth conditions bear a close relation to health, as high as 90 per cent of the children from 2 to 5 years of age in some schools have been found to have decayed teeth, while in 600 adults examined from 20 to 50 years old, 79 per cent were found to have diseased tissues surrounding or at the ends of roots of the teeth; while in 1,500 cases with systemic diseases were found to have pyorrhea."

Which article was very much appreciated, not only by the public, but by the profession, and we hope to have good beneficial articles along this and other educational lines of our profession.

Just a Word

A. M. Hudson, Chicago, Ill.

It goes without saying that dentistry has progressed in the past fifty years, but the progress has not been continuous and uniform. We have advanced, then stood still awhile, then advanced again, with occasional lapses seemingly if not quite reactionary. All older dentists are familiar with these phases in dentistry and so are not surprised at the developments of the past few years. Some of us for many years insisted that the teeth exercised a broad influence over the general health. In the main, this contention was met by the medical profession

with contemptuous indifference, and a general attitude of "Oh, yes, maybe so." It was absolutely impossible to get the average M.D. to give more than a passing thought to the teeth as possible causative factors of disease. Lately we have had a right about face on this question, and physicians now exaggerate and magnify what formerly they minimized and made light of.

It is known that the practice of medicine has always been a succession of fads, taken up feverishly by the rank and file (after being advanced cautiously and conservatively by some big gun), worked to a finish, and gradually abandoned, or simply referred to as a mere possibility. I never expected to see the day come when dentists would be taking orders from physicians, and, on merest suspicion, extracting absolutely perfect, healthy teeth. Dentists have been parties to crippling thousands of people during the past few years, and accomplished no good. We all know this is true, and I think it time to call a halt.

Dr. C. N. Johnson spoke very truly on this matter at Los Angeles last winter, and I endorse heartily the stand he has taken. Now, we as dentists have seen so much benefit from properly made fixed bridges, why threaten to abandon the method just because it has been abused? Also the matter of saving pulpless teeth. We have all seen many cases of pulpless teeth in mouths 20, 30 and 35 years remaining firm and healthy. Recently I had an old patient come back to me whom I had not seen for over 20 years. I had made her a partial upper plate among other work. She wanted a full plate, having lost all her teeth except the right upper cuspid, which was very firm. On extracting it I discovered it had a porcelain crown and I mentioned this to the lady. She then informed me that I had crowned that tooth nearly 25 years before. The root was absolutely healthy. Now I am sure this sort of experience has come to most older dentists many, many times.

I think that all we need on this question of focal infection, etc., is a healthy sort of "reasonableness" to admit there are many such cases and to do our best to guard against causing any more, in so far as carefulness and exercise of good judgment will enable us.

Another thing! Let us stop calling every slightest pus pathology "Pyorrhea."

Let us be honest with ourselves and to our patients and be very, very careful that in our desire to get rich we do not lose the idea of service. We owe a duty to the people, for we receive the right to practice from the people, for the people are the state. Let us not fail to remember that the masses of the people have many other necessary things to pay for besides dentistry; therefore we should not boost our fees to a point prohibitive of a general proper care of their teeth, and their children's teeth.

1548 Belmont Avenue.

PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to him.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Therefore contributions containing the names of proprietary preparations, if published at all, will be altered to the necessary extent; but such information will be given direct by letter when requested.

Editor Practical Hints:

Answering your correspondent, C. L. S., in a recent number of the DIGEST, will say that hydrochloric acid, C. P. will remove Steele's facings from a bridge more rapidly than anything I have tried and do no injury to the metal.

Answering H. S. K., will say that amalgam fillings under the bridge will at times affect the gold through free mercury working out from the inner to the outer surface of bridge. I had one case where an amalgam filling under a shell crown was not sufficiently covered with cement, and in a few weeks' time ate away the entire buccal surface of the crown.

JAS. E. CALLAWAY.

Editor Practical Hints:

While looking through "Hints" in the DENTAL DIGEST for an article I had filed for reference, I noticed a subscriber asking for information in regard to dipping wax into sheets, and your answer advising him to use the old soaped bottle method. Two years ago I accidentally dropped a wet Spence cast into a pan of hot wax completely immersing it, and thinking it was ruined fished it out and laid it on the bench. A few moments later I picked it up and to my surprise it stripped off absolutely clean, and on trimming it up I had the prettiest, well-adapted base plate that I have ever seen. I then made two slabs of plaster paris, six by three inches, and after drying thoroughly soaked them in water for about ten minutes. Then using them alternately and returning them to the water when they got too warm, proceeded to dip my wax and I have used no other method since.

Now, in using this method to dip the face of cast into wax to make and adapt base plate, I first burnish No. 60 tin-foil over cast, trim and

then proceed to dip until required thickness is obtained. I do this for two reasons—to stop shrinkage of wax and stiffen base plate, and to avoid wax sticking to cast when adapting teeth to base plate. I generally use Graft's or Ashe's English Metal for base plates, but there are times when we all use wax and this works just as well in partials. I do not find that wetting the cast injures it at all if it is well set. Also to make individual trays to take full impressions in plaster, take snap impression in modeling compound, run cast, separate and take cloth (I use worn out towels which have been laundered), cut to approximate size of cast, dip in melted wax and while yet warm adapt to cast and trim under muscle attachments; leave space of one-sixteenth inch all around margin but scrape cast well in posterior and adapt tray closely to post dam. Fill with snow-white model plaster, mixed to proper consistency, and insert to place with oscillating motion and have patient close mouth; hold in place until plaster is set.

In dipping base plates on lower impressions after first dipping strengthen plate by laying piece of flattened wire around and over ridge, imbedding in wax, and dip second or third time according to thickness wanted. Your assistant can dip two or three pounds in a short time. Experience will gauge thickness, and the beauty of this is that any thickness desired may be obtained in a few minutes. There is no reason that this should not be used in adapting wax to model in casting removable bridge work, although I have never tried it.

Formula for base-plate wax: To one pound of pure beeswax add one-fourth pound of pure paraffine, temper with ordinary powdered pine resin to suit.

I always found the bottle method of dipping wax unsatisfactory. In conclusion will say, do not use any soap or oil on plaster slabs; just soak in water until saturated. I have been using the same slabs for two years.

M. E. RAMBO.

Editor Practical Hints:

I take the liberty of asking your advice upon a problem that is confronting me. I am constructing a removable bridge, restoring the inferior right first and second molars, using cast-clasp attachments on the abutments.

Now, I have the clasps constructed, and in trying in the posterior clasp find that it causes the patient to bite his cheek every time he closes his jaw. This happens only when the clasp is in place. This is a puzzle to me and I can think of no way of relieving it.

If you can give me any information on this puzzle it will be greatly appreciated.

I. E. M.

ANSWER.—I would suggest that you narrow the buccal wing of this molar clasp very much, shaping, if necessary, so that clasp will cover only the gingival third of the buccal surface. Then the buccal cusps of the upper molar could be shortened and rounded off some, no doubt. It is difficult, as you know, to diagnose a case accurately without seeing it, but I hope this will help you. At any rate I have corrected similar cases in like manner.—V. C. SMEDLEY.

Editor Practical Hints:

In pulp testing by electricity, are the regular pulp-testers better than a high frequency outfit with a small electrode?

Is this high frequency outfit with a large electrode of any material value in the relief of pericementitis or post operative pain in cases of incipient abscess, especially when an old chronic decided to tune up?

If there is enough rubber content in vulcanite to make it real plastic and easy working, will it shrink much more than if it contained more filler of some kind?

Just before filling all cavities (except capped pulps) I flood cavity with phenol compound, let stand a few minutes and wipe out with cotton; then with cotton moistened with alcohol. Results seem good, but I am not scientist enough to know whether this is the best procedure or not.

For years I have used a preparation containing carbolic acid and eugenol in capping almost exposed pulps. I seldom monkey with absolute exposures, and about two years ago I got on to using powdered $AGNO_3$ and have had some peculiar results. I think along at first I used too much silver nitrate, but at any rate the pulps seemed to recede so far that almost no reaction to cold is apparent now, a stream of ethyl chloride being necessary to get a response. Only one tooth so treated (that I know of) but has behaved all right in other ways; this one was a six year molar in the mouth of a little girl. The tooth had ached quite a while and the pulp would have been exposed had the brown carious dentin been removed. I flooded cavity with $AGNO_3$ solution and then put a base of the carbolic eugenol preparation and powdered $AGNO_3$ over pulp and covered with cement. About a year later the patient returned with a toothache and some swelling and reported that it had been comfortable until the night before. It wasn't very sore so I tried to open it and drilled and drilled apparently into a solid block. I finally quit for fear of perforating. No sign of canals or pulp chamber except a slight difference in the color. H_2SO_4 did no good. I extracted as the only way out. Have I been playing with fire in using silver nitrate so promiscuously.

Well, these are some of my troubles, and I apologize ahead for taking up your time but I know you will help me.

E. H. T.

ANSWER.—In regard to the electrical testing for vitality, we have one of those high frequency outfits, but are not using it as much for pulp testing as we did at first, feeling that in most instances the ice is more convenient, dependable and satisfactory. The sputtering of the static machine is rather disconcerting to some patients and the electric shock is more unpleasant to them than that from the ice test. We do use the large electrode very frequently, however, for the purpose of allaying post-operative pain following extractions with quite gratifying results, rubbing or massaging in Iodex or Analgesic Balm with the electrode.

We do not temporize with many abscessed teeth. As a rule these cases are treated with the forceps.

I think the more filler there is in rubber the less shrinkage there will be in vulcanizing as a rule, e. g., pink rubber which contains much more mineral matter is much less plastic and shrinks much less than any of the base rubbers.

I think your practice of wiping out cavities with phenol compound and drying with alcohol is very good. We have followed this practice for years, using straight phenol instead of phenol compound, however. The phenol acts as an antiseptic and somewhat as an obtundent, coagulating the albumen in the canaliculi; the alcohol neutralizes the excess of carbolic acid, acting also as a further antiseptic and drying agent.

I cannot agree with you in your pulp capping procedure, however. You might get away with the use of carbolic acid eugenol preparation in the case of almost exposed pulps if you are not too near to an exposure, but any devitalizer or escharotic, such as carbolic acid, should be kept away from actual contact with pulps that it is desirable to maintain in a normal healthy state.

The fact that you "seldom monkey with absolute exposures" is a great mistake, I think; for absolute exposures of healthy pulps may be capped with a perfectly pure, bland, soothing non-irritating material with impunity, and with the same degree of confidence in the ultimate success of the operation as with any other dental procedure. In regard to your use of AGNO_3 as you describe, I think you are again fundamentally wrong, for as stated above no devitalizing or escharotic agent should be placed in proximity to vital pulps and AGNO_3 is strongly escharotic. The fact that you have had such marked laying down of secondary dentin in these cases indicates that this agent is irritating and annoying the pulp sufficiently to stimulate this secondary dentin formation, for it is a well known fact that secondary dentin is formed in response to slow, chronic and prolonged irritation of pulp tissue. Where this irritation is stronger and more active it results in the death and disintegration of the pulp.

In the case of the little girl with the six-year molar, if the decay

had been removed to a near exposure of the pulp and the cavity bathed with a perfectly pure sedative to stop the tooth-ache and purify the dentin to some extent; then later if all decay had been removed, even if part of the pulp were removed also, no matter if accompanied by free bleeding of same, and if when blood had stopped and pulp soothed and brought to normal by said antiseptic dressing; if now pulp had been capped without pressure with a bland material, such as described above, probably this young lady would have this six-year molar functioning normally in her mouth today.—V. C. SMEDLEY.

New England Elms

If trees were people, pines would be
Too prim for popularity;
Their ruffled frocks through Summer, Fall,
Winter and Spring, don't change at all.
And birches in their gowns of white,
Dancing with winds that trail the night,
Would be lithe maidens, free and glad,
Not caring if the world is sad.
And maples with their love for dress
Would be vain ladies, too, I guess,
While poplars would be tall, slim youths,
Their tongues wind-silvered with pale truths.
Gnarled oaks and chestnuts in the glen
Would be calm, sturdy business men,
And fruit trees would be mothers fair,
Giving their offspring tender care.
But elms would be philosophers,
Accepting whatso'er occurs,
Living in contact with the sod
But lifting up their minds to God.
And elms would be nice folk to meet
Along some still New England street.

—*N. Y. Times.*

CORRESPONDENCE

Editor Dental Digest:

Won't you get Dr. Crossman to tell us how he made certain that it was impossible for any tooth or part of a tooth to get away as per case referred to on Page 439, Digest for July?

Perhaps his way has the one we use beaten a mile.

I haven't let one slip yet, but why couldn't it happen, and if it did, would it of necessity be carelessness?

The better we are prepared to fight Bauman cases and Crossman cases the better it will be for all dentists—yes and for ill-advised laymen, for usually they are the “goats” for a crooked lawyer.

If Dr. Crossman for any reason can't give his technique, why can't someone else?

HARRY C. MOHR.

To Whom It May Concern:

The Board of Dental Examiners of Alabama would call your attention to one of its new requirements of applicants for license certificates, effective at the annual examination, beginning June, 1923, which reads as follows:

“Upper, fixed, sanitary bridge will be substituted for inlay, to consist of three-quarter or hood crown on cuspid, and three-quarter crown on first molar with sanitary pontics or dummies, to be waxed up in occlusion but not soldered, and to be mounted on typodont or extracted teeth properly set in plaster models and mounted on articulator. All work including preparation of abutments, to be done before the Board, except that if porcelain root tips are used on pontics or dummies, they must be baked before coming to the examination.”

We would again call your attention to an appeal which we sent out in 1919, which reads as follows:

“This appeal is directed by the State Board of Dental Examiners of Alabama to the recognized Dental Colleges of the United States.

“In the light of present-day knowledge, it seems to us but little short of criminal that the schools in many instances are graduating men with such a vague idea of the awful effects of focal infection resulting from improper root canal technique.

“So much secondary disease originating from focal infection makes it absolutely necessary, that if root canal technique is to be taught at all,

then the most approved, modern methods should be taught, not only in lectures, but should be practiced rigidly in the Infirmary.

In this connection, it is deplorable that in many instances we find recent graduates going out mentally equipped to practise obsolete methods, and we respectfully suggest that those Colleges which have not already done so, will establish a chair bearing the same relation to Dental Surgery that the Chair of Current Literature bears to the Academic course in the various Colleges and Universities.

"With no intent to embarrass, and with only the good of the public and the right of recognition of the profession in mind, this appeal is respectfully submitted."

The Board has observed some improvement in the applicants which have come before it but we wish again to urge that those Colleges that teach root canal filling do so with a rigid observance of the strictest asepsis, both in the clinic and didactic departments.

Respectfully submitted,

H. CLAY HASSELL,
Secretary-Treasurer.



DENTAL LABORATORIES

EDITOR'S NOTE.—Publication of theories or methods of technical procedure in this Department does not necessarily mean that they are endorsed by the Editor or the Publishers of THE DENTAL DIGEST.

Re-basing Gold Partial's Without Covering the Gold

By I. T. Dresch, Toledo, Ohio

A METHOD FOR GOLD AND VULCANITE SADDLES, AS WELL AS FOR ALL GOLD CASES

Any tissue bearing appliance is only useful so long as the tissue beneath it does not change. When resorption takes place, if the denture moves with such shrinkage, it will be out of occlusion, and useless. If the denture is held rigidly in position by means of a retainer, and does not move with resorption, it becomes a first class lever, and the abutment teeth are absolutely doomed. In either case, the only remedy is a make-over. Where vulcanite is used, the correction is easily made by re-basing. But where gold is used, it is an entirely different matter.

If a patient has paid an extra amount for gold saddles, it is unlikely that the dentist will suggest covering them with rubber. And this is equally true if the case is to be made all gold. For those reasons it has been necessary in the past, to correct conditions by remaking the denture, and because of the cost, such correction was rarely made. The method given here, however, makes the re-basing of gold cases as simple a matter as re-basing vulcanite dentures.

The saddles or base is made of thirty-six gauge pure gold. It may be swaged or burnished directly over the stone cast. Metal dies and counter dies are not necessary. Sometimes a die of low-fusing metal such as Anchor or Mellote's is used. After the saddle is swaged, wire screen or mesh gold is swaged directly over the saddle. This gold can be obtained from your Dealer. The screen gold is now soldered direct to the gold base, and for that purpose, a good solder in paste form is used. The idea is to solder the screen to the base, without covering the mesh with the solder. Ordinary solder cannot be used,

as it would cover the mesh. By using the paste form solder sparingly, the mesh is soldered to the base, leaving the round wire of the mesh exposed.

It is important to have the wire exposed, because it takes the place of the usual spurs or loops for retention with the rubber. In fact the screen properly soldered, gives a better retention than the ordinary spur. The saddle may be furnished with a gold wire edge, but a smooth, well-rounded edge of vulcanite will really be more comfortable than the average sharp or narrow gold wire edge. Clasps, lingual or palatal bars are not soldered to the saddles or base, but must be imbedded in the vulcanite.

When re-basing is necessary, the saddles are removed by placing a small blow-pipe flame over them. It will not take much heat to affect the operation—in a few moments the saddles or base will come away from the rubber. The vulcanite base or denture is then used as a tray, and the re-base impression taken in the usual manner. A stone cast is poured in the impression, and the case flaked the same as an all vulcanite re-base. When the flask is separated, the thin pure gold saddles can be burnished to the cast, to take up for loss of fit due to resorption. The rubber in the other half of the flask is cleaned as usual, new rubber added, and the flask closed with the saddles seated on the cast. After vulcanization, the gold base will be exposed on the bottom, and new rubber will be between the gold base and the old rubber, to the extent of the resorption.

On all gold cases the same saddle of pure gold and wire mesh is used. But it is not made until it is found necessary to re-base the denture. The impression is taken inside the gold case, the same as for a vulcanite re-base. The stone cast is next poured in the impression, and when hard, the case is mounted on an articulator. When placed on the articulator, the teeth of the denture are covered with plaster which is fastened to the articulator bow. It is only necessary for this plaster to come in contact with the occlusal surfaces of the teeth. The case is mounted on the articulator, because otherwise the bite may be opened or closed, and for that same reason the articulator should be locked.

The saddles or base is now made, and fitted over the cast. The impression material is removed from the gold base, and either of the two following methods used: If the resorption has been very slight, the surface of the gold is roughened, and undercuts made with a bur. This surface is then covered with sufficient high-grade crown and bridge cement, the denture placed in position with the occlusal surfaces of the teeth, in place in the plaster of the articulator bow, and the articulator closed. This action will place cement between the screen surface of the gold base, and the undercut gold denture. The articu-

lator being properly set, it closes just sufficiently to maintain the same relation of the bite, as was had when the re-base impression was taken. If brown or yellow cement is used, the cement line will hardly be noticeable. When it is necessary to re-base, place a flame on the screen gold saddle, and the cement will crack, allowing the saddle to come away without distortion.

If resorption has been so great that the use of cement is undesirable, rubber is used to fasten the base to the denture. The cast is made in the usual manner and the denture flaked the same as an all rubber re-base. When the flask is separated, the pure gold and screen saddles or base is fitted to the cast. The surface of the gold case is roughened and undercuts made with a bur to retain the rubber, and the rubber packed as usual. The flask is then closed and the rubber vulcanized. After vulcanization there will be rubber between the gold saddle and the gold denture, to the extent of the resorption. The edges of the screen gold saddle may be bent away from the cast, so as to cover any rubber that would otherwise be exposed.



DENTAL SECRETARIES and ASSISTANTS

Announcement

The department devoted to dental secretaries and assistants was formed for the purpose of increasing the knowledge of those employed in dental offices. For the same reason, with this issue, a "questionnaire department" is started. It is reasonable to suppose that among the readers of THE DIGEST are many assistants and secretaries who have problems arise daily in connection with their duties. In the future, it will be their privilege to forward such problems to THE DENTAL DIGEST, and the questions will be answered in this column. The name and address of correspondent will be withheld if desired. It is hoped that the dentists will cooperate, as any knowledge or experience their assistants gain will react to their benefit.

Address Miss Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42d Street, New York.

SECRETARIES' QUESTIONNAIRE

How can I keep the developing solution at the right temperature in hot weather?

Do not add ice to the solution, but place around tank, or if you use a glass place in a bowl and surround with chopped ice.

How may I learn to differentiate instruments?

By studying the catalogues and pamphlets issued by the different manufacturers. They will be forwarded on request.

How should patients be received?

Ask them to be seated. If the doctor is not ready, assure them he will be at leisure in a few moments; suggest a magazine or that they remove their coat. In warm weather a pitcher of ice water, with glasses, on the reception room table, is a welcome sight.

Which is favored, glasses or paper cups?

Many people prefer the glasses, but it would be a good idea to have both in the office. If you are equipped with the wall glass cabinets, include a celluloid or nickel holder and a half dozen paper cups in each cabinet. In any event, have the paper cups properly cased so that no dust reaches them.

What shall I write to patients who have referred new patients?

If you write a personal note, thank them for having referred the patient. An engraved card with the wording "Permit me to thank you for having referred Mrs. A. B. Blank to me for dental services," serves the purpose nicely. If recommended by a physician, give report of condition, diagnosis, etc.

When an appointment is made for examination, how can I be of service?

If your employer asks for a study model and a complete X-ray for each new patient, you might explain his procedure and take the X-rays as well as study model impressions if you can. In charting the patient be sure to get the office address and telephone in addition to the residence. You never know when the emergency will arise that you will want to reach him during business hours in the event of a cancellation, etc. Place a mirror, pliers, explorer, and excavator on table. Spray patient's mouth. Have dental floss, hand mirror and X-ray microscope at hand. Why not mount several pictures, showing impacted wisdom, improperly and properly filled canals, abscessed and apical infections, etc., so that if the doctor speaks of any case, you will be prepared to show an instance clearly. If you have a framed sign at the chair saying that a retainer is desired, it will pave the way for the necessary deposit.

What is the best method of keeping dental records?

That is a matter requiring study. It is advisable to have the books closed by a public accountant at frequent intervals. Get experienced advice and then follow it. Make daily entries of receipts and expenses. Try to arrange a definite half hour each day to go over the accounts with your employer. Make out a check each week for the petty expenses. Deposit everything received the following day.

How can I prepare a normal saline solution?

Dissolve $1\frac{1}{2}$ ounces of common table salt in a half pint of pure water. When cool, add sufficient sterile water to make 8 fluid ounces; strain into a well-stoppered sterile bottle through sterile gauze. This can be kept on hand. Add stock solution to sterile water to make any quantity desired.

What can I use to get most mercury out of silver fillings?

Weigh the amalgam and mercury before it is mixed after you have determined the necessary mercury needed to properly amalgamate the particular alloy used in your office. Thoroughly mix, then press in a square of gauze or squeeze out with a piece of chamois. Some practitioners prefer the moist amalgam when the operation is started, and the dry amalgam at the end.

After an extraction, what advice shall we offer the patient?

Suggest warm water with an antiseptic or a teaspoonful of salt as mouth wash during the day and after meals, and an ice bag applied externally when retiring. Always ask the patient to return if in pain. Telephone the following day and ask his condition. It will prove your interest and be appreciated.

What can be done for burs that are rusty?

The rust can be removed by soaking in kerosene. But try to keep the burs in use always changed, so that the doctor uses only those that are true and sharp. Rather have a smaller collection of each variety and in perfect order.

How can I get both roots in an X-ray of first bicuspid for canal filling diagnosis?

Direct the rays from either the back or front, instead of to the tooth or jaw.

After the rubberdam has been adjusted the saliva leaks through. Is there anything that can be done except change the dam?

Dry and add another ligature, then apply sandarac varnish. If there is a small hole, roll a piece of cotton, dip in sandarac and place in the rubberdam hole.

I am the only one employed in the office, and when developing an X-ray am frequently called to the telephone or chair. What should I do?

It would be best to develop the pictures before your first appointment or at the close of the day. Should the doctor want the picture immediately, and you do not use the tank method but use a glass, and have no developing box, place your glass in a strong, tight black box with a tight-fitting cover, or purchase an earthenware crock with counter-sunk cover. When sealed this will shut out all light. Develop at 65 degrees always. Use a thermometer to be certain. If your film is properly exposed it should be developed in five minutes. The X-ray machine manufacturer will furnish charts, angles, time exposures, and clear up any doubtful points. The film manufacturer will send data as to developing and mounting.



A Liability or an Asset?

By Virginia Rice, A.B., Los Angeles, Cal.

Today is the day of the "Specialist," not only in the professions but in every line of business. Competition, the key note for all prosperous activities either in the business or the professional world, is the one thing which has given birth to "specialism."

If the working of competition, the survival of the fittest, can compel one dentist to specialize in dental surgery, another in prosthetics and still another in prophylaxis, each following the line of endeavor for which he is best fitted, though his profession is far from overcrowded, how important for us, office assistants, each with hundreds of competitors, to give thought to our capabilities.

We are the minor light, or reflection, of the man or office wherein we are employed. There is not one of us who is not from time to time "weighed in the balance" and many of us fall short in the services given our employer. We are either an *asset* or a *liability*.

Webster tells us that "liability" is "the state or quality of being liable." Here is a questionnaire every assistant in a professional office should answer each evening as she finishes her day's duties.

(1) *Are you liable* to report for work at 8.10 in the morning, when the office opens at 8 o'clock?

(2) *Are you liable* to change into a white uniform and cap, and neglect to put on white shoes and stockings, when the rule of your office is "all white"?

(3) *Are you liable* to take so much time in "primping" in the morning that you have not time enough properly to dust your reception room and get your operating room ready for the first patient?

(4) *Are you liable* to sterilize your instruments fifteen minutes, when the rule of your office is twenty minutes?

(5) *Are you liable* to be discourteous and hasty with the nervous patient, because you have not had the proper amount of rest the preceding night and *you are nervous*?

(6) *Are you liable* to forget an important telephone call for your employer because you were too busy thinking of something personal to jot it down when the call came?

(7) *Are you liable* to allow the worn places in the linen to wear so thin, that a hole is the result, because you were very interested in a book when your employer was away?

(8) *Are you liable* to get trivial telephone calls during working hours because you have not told your friends that you work when you work and play when you play?

(9) *Are you liable* to close the office at 4.45 instead of 5 o'clock when the doctor is away playing golf?

Some will answer that these duties are very trivial and that we all make mistakes, but the cumulated mass of all these mistakes gives an office a lowered morale.

How many of us just consider our place of employment as a place where we "put in" eight hours a day, and twice a month walk out with a salary check. But no matter where we are or how much experience we may have had there is always something new to learn. We ought to read all the dental magazines just as enthusiastically as the progressive professional man, and we ought to educate ourselves so completely in our chosen work that we can discuss the latest theories and opinions with the man with whom we are working daily.

To attain our ideal, that is, to be an efficient assistant, we must so plan our lives and our hours of recreation that each morning we may have a fresh mind to meet the demands upon us for that day. We must realize that we are in the business world and that being an efficient business woman is our first duty, not attempting to be a "society butterfly." We cannot "burn the candle at both ends." Anticipation is an assistant's first requisite. Nine times out of ten you will be right, but when you are wrong you will certainly get the credit for thinking.

Order and system play a great part in the success of an assistant. Have a place for everything and everything in its place.

Personality is a certain something which some people possess, which we cannot quite understand. Some office assistants have a way with their patients which we envy. That is personality. Be thoughtful of the state of mind of every patient. When we treat one patient indifferently, right there is where our value as an asset begins to deteriorate.

Personal cleanliness is vital. The slovenly office nurse with soiled shoes, soiled uniform, straggly hair, and hands that are "tipped with ebony" has no place in a dental office. When you see her you wonder what her office looks like and what care she can take of others when she so shamefully neglects herself. Soap and water are cheap, and the psychology of personal cleanliness cannot be overestimated.

Conscientious work means work done with science or with thinking. The responsibility of keeping the office as "surgically clean" as human hands can make it is yours, and if a case of infection seems to have had its beginning in your office, someone blundered. To have responsibility thrust upon us and to meet that responsibility is the test of an efficient assistant. To be a check receiver is one thing—to be a check earner is another.

The sum total of the assets is a loyal, trustful, and conscientious employee. Let all of us pledge ourselves to helpful assets and not hindering liabilities. Fore!

DIETETICS and HEALTH

Vitamin Theories

The essential experimental facts about the functions of the best known vitamins have become sufficiently familiar to justify the belief that these newly recognized food factors furnish something of importance in a human diet, according to an editorial in the Journal of the American Medical Association. Holt recently summarized the service which the newer knowledge has rendered by pointing out how it has helped to place the whole subject of nutrition on a better scientific basis. The experimental has been substituted for the empiric method in determining the value of the different foods. Formerly we might know that certain foods were desirable and necessary; now we are often able to say why such is the case and to determine their precise value in nutrition.

The study of vitamins has helped to make clearer why a variety of foods is so essential to well being, and how danger may follow when diet becomes restricted from either necessity or caprice. Decrying the indiscriminate use of alleged vitamin-bearing preparations as popular therapeutic agents, Holt further utters the warning that until they have been confirmed by adequate clinical experience there is some danger in relying too much on the results of laboratory observations on animals of a different species whose physiologic needs may be different from those of human beings. In a somewhat similar strain, Mitchell has asserted that in the total lack of quantitative data on the vitamin requirement of man, and in the general absence of malnutrition or disease among people in this country which can with any degree of probability be diagnosed as involving vitamin deficiencies, it seems premature to formulate recommendations for the balancing of diets with respect to vitamins. It is pointed out that the classic experiments are conducted in each instance on species peculiarly susceptible to the particular deficiency under investigation. However, this sort of criticism is a conventional one in medicine. While admitting the background of truth in it, we must recall that the clues furnished by animal experimentation have led to so many helpful avenues of information that it would be scientific folly to fail to heed them, even in our as yet inadequate understanding of the possible bearing of vitamins on human

welfare. There is no necessary conflict between an open mind and conservatism in scientific judgment. Hence we are glad to reiterate the warning of Mitchell, when he writes:

At a time when popular periodicals are widely publishing irresponsible articles on vitamins, ignorantly or deliberately creating an entirely distorted popular conception of them, and when commercial concerns are widely advertising purely hypothetical advantages of vitamin preparations, it is particularly important that investigators in nutrition exert great care in the wording of statements as to the practical significance of vitamins in every day life. Otherwise they may become unwilling accomplices in the perpetration of a gigantic fraud upon the American public.

It is in harmony with such conservatism of statement, we believe, that the recent report of the Council on Pharmacy and Chemistry of the American Medical Association on yeast preparations has been formulated.

With so much uncertainty still admitted, it might seem futile to discuss at this time the theories of the mode of action of vitamins. However, the history of science attests that its development has more often been promoted rather than retarded by the leavening influences of hypotheses. Most investigators of the vitamins have looked on them as functioning somewhat as hormones are supposed to act in the organism, namely, as stimulants to certain physiologic mechanisms. Others have imagined the newly discovered factors to be essential components of some, at least, of the living tissues; thus they would be quite as indispensable as are other structural units of the body, such as certain amino-acid groups, calcium, phosphorus or iron. A further group of students has assumed the vitamins to be primarily catalytic in function, thus behaving like the well-known enzymes. Hess of Zurich has lately offered somewhat indirect evidence that the anti-neuritic vitamin, which relieves the symptoms of polyneuritis in animals fed on diets devoid of vitamin B, contributes in some way to the production of oxidative enzymes in the body. Studies *in vitro* on the tissues of polyneuritic pigeons indicated to him a decrease in the oxidative enzymes usually found in well nourished animals. On this hypothesis the avitaminosis is an expression of poverty of the cells in the factors that facilitate tissue respiration. This is one of the many guesses which the future will need to evaluate in the physiology of vitamins.

Relation of Nutrition to Tooth Development

A study of the gross maxillary and dental defects in 220 rats on defective and deficient diets was made by E. V. McCollum et al. It is shown that the internal structure of the skeleton of the rat can be changed at will by varying the ration which the animals received. Some of the faulty diets studied produced rickets often of an exaggerated type, others caused osteoporosis. Still others resulted in the development of the peculiar lesion, which has been called osteosclerosis. A study of the effects of these diets on the skeleton would indicate that the growth of the skeleton was dependent on at least three substances: (1) an organic substance present in certain fats which is not identical with the antixerophthalmic fat soluble A; (2) calcium and (3) phosphorus. The studies of diets which contain varying percentages of calcium and calcium phosphate show that the absolute amount of either ion in the diet is of relatively little importance as compared to the ratio which exists between the two. That is, normally calcified bone is produced without regard to the reduction or diminution of either calcium or phosphate in the food, provided the content of the other ion is proportionately augmented or depressed.

—*Journal American Medical Association.*

“I’ll Smoke No More!” Ha! Ha!

When man determines to abjure punk habits which have made him poor, it seems that all the fates protest, and for his downfall do their best. My pastor often called me down for smoking pipes around the town. “A foul example for the young,” he grimly said, “by you is sprung; the children see you burning grass, and imitate your curves, alas!” My doctor said, “You’ve smoked so long that all your works are going wrong.” And so I cried, “I’ll smoke no more, though smokeless days may be a bore.” Before my vow had aged a day a neighbor sought my door to say, “Your songs encourage and uplift, and so I’ve brought a little gift; a pipe of meerschaum, fair to see, and when you smoke it think of me.” When he departed from my gate, there came another smiling skate, who said, “O Bard, your deathless rhymes have saved my life a thousand times! When I had chilblain and repeat, I rubbed your verses on my feet; and when my hair was falling out, and when I had the duplex gout, I took a madrigal of yours, and found it beat the drugstore cures! You are a sun among the stars, and so I’ve brought you some cigars, the kind that kings and princes use—they do not smell like burning shoes.” You ask me if I kept my vow; don’t bother me—I’m busy now.—*Walt Mason.*

Man's Best Gift to Man

Man's best gift to man is running water. If you doubt this, stop and think. Take away running water and what would happen? The human family would again huddle along the banks of rivers, and its future would be mostly behind it.

The march of progress depends on running water. Without it there would be little comfort and less productiveness. But that isn't all. Running water carries away dregs of life and keeps the world clean. If the dregs are not carried away they quickly breed disease, and disease likes to flirt with death.

The largest building and the smallest cottage, the summer resort and the farmer's feed yard—wherever men and women live and work, they can have running water, have it hot or cold and have it always on tap.

Not very long ago there was more good health to the square foot in the country than in the crowded cities. Now the shoe is on the other foot.

Why the change? Just this and nothing more: The cities have been pushing ahead faster in the matter of pure water supply and in the matter of getting rid of waste.

Running water gives you water every place you need it at the time you need it.

Running water gives the home a bathroom, a kitchen sink and convenient laundry tubs. All these conveniences increase health and happiness.

—*Domestic Engineering.*





EXTRACTIONS



No Literature can have a long continuance if not diversified with humor—ADDISON

All the world isn't a stage. Some of it is a work bench.

A village is where the police and fire departments are the same man.

Women never wore heels on their shoes prior to 1825. Now look at 'em.

The perfect woman's foot should equal in length one-seventh of her height.

It is said that no man can tell a fib and keep his big toe still. No wonder people like to wear shoes.

(Self Cure explained by Coué)—"Day by day, in every way, I am getting better and better." The needle, Watson, the needle!

(Coach)—You say you can play football. Have you had any practice?

(Football Prospect)—Yes, sir. I used to be a floorwalker at the bargain sale counters in a department store.

Hickory, Dickory, Dock,
The mouse ran up the clock,
And then what happened was simply shocking—

The clock was on a lady's stocking,
Hickory, Dickory, Dock.

"Dear John," the wife wrote from a fashionable resort, "I inclose the hotel bill."

"Dear Mary," he responded, "I inclose check to cover the bill, but please do not buy any more hotels, we can't use them."

(Patient)—Now you can give me gas, doctor.

(Dentist)—The tooth is out, my dear man.

(Patient)—Yes; but givin' you the two dollars is what hurts.

How'd you like to buy a Dental equipment if you lived in Germany, Austria or Russia? Here's the present price of a \$1200 equipment in these countries: Germany, 360,000 marks; Austria, 1,650,000 kronen; Russia, 1,830,000,000 roubles.

ODE TO A CAT

The sound of your ribald balladry
Under the blowzy moon
Converts me to Vivisection—
And I hope it gets you soon!

Whatever else may happen,
Altho the country's "dry,"
The sailor still will have his "port,"
The farmer will have his "rye";
The cotton still has got its "gin,"
The seacoast has its "bar,"
And each of us will have a "bier"
No matter where we are!

(Mabel—to Brother Tom who has picked out for himself the best of the cherries)—You certainly are a pig, Tom.

(Mother)—It's not very nice to call your brother a pig, darling.

(Mabel)—All right, I won't. But the next time I see a pig I'll say, Hello, Tom!

There was a man who fancied that
By driving good and fast,
He'd get his car across the tracks
Before the train came past.
He'd miss the engine by an inch,
And make the train hands sore—
There was a man who fancied that—
There isn't any more!

One of the far-western cities had an amusing incident take place the first week a Turkish bath was established within its borders. A rough miner thought he would try what a bath of this kind was like, and in a few minutes had entered the hot room. Suddenly a wild cry came from that room, and when an attendant rushed in, there stood the miner completely disrobed except for a red flannel undershirt.

"What's the matter here?"

"Look at this," said the miner, pointing to his undershirt.

"It's your undershirt, isn't it? Why don't you take it off?"

"Why, man, I just took one off, and this one was right here all the time. I looked all over my room for this undershirt last summer and I couldn't find it nowheres." And he shed tears and his voice choked as he said, "I shot my roommate for stealing it!"

SOCIETY and OTHER NOTES

Are the Criticisms of the Dental Welfare Foundation Just or Unjust?

There has probably been no movement in the dental profession which has caused so much criticism from various sources as has the action of the National Dental Association in recognizing the Dental Welfare Foundation.

A great amount of this criticism has come from men not familiar with the purpose of the Dental Welfare Foundation, or the manner in which it received recognition from the National Dental Association. There has never been any action of the National Dental Association and the Board of Trustees that has been so misinterpreted and about which so much misinformation has been given out.

The statement has been made that the Dental Welfare Foundation was "railroaded" through the National Dental Association and was brought up as an order of business at the last meeting of the Board of Trustees and the House of Delegates, and consequently did not receive the proper consideration. As a matter of record, no business that came before the House of Delegates or the Board of Trustees received as much deliberation as did the plan of the Dental Welfare Foundation. This was because men who were interested in the Foundation realized their acts would be open to criticism, and consequently desired to give every one a chance to express an opinion on this matter before it was finally passed.

On three different occasions, the proposition was brought before the Board of Trustees for consideration and each time it received only favorable comment, although two members of the Board did not speak in favor of it, yet when it was voted on they did not vote against it. These two members were given ample opportunity to raise objections to the plan but no objections were raised. It was passed unanimously by the Board of Trustees and therefore was passed on to the House of Delegates where it again received unanimous endorsement.

It therefore seems to us rather improper that the Board of Trustees and the House of Delegates should now be criticized by the men who

were not interested enough in the welfare of dentistry to attend the national meeting at Milwaukee. Those who had objections and were interested in the National Dental Association should have attended the meeting and raised their objections at that time.

In the face of the criticism raised, we should consider whether the purpose of the organizers of the Dental Welfare Foundation is such as to enlist support or condemnation. The plan of the Foundation as outlined before the Board of Trustees and the House of Delegates was to provide a means of distributing dental information among the public in such a manner as to avoid any criticism relative to unethical conduct by the dental profession.

The dental profession had at various times considered the distribution of dental information, but any plan that was seemingly backed by a few of the dental profession would be misinterpreted by the public. The public would consider the dentists were working for their own advancement rather than with a motive for the benefit of the public from an educational standpoint.

A number of members of the dental profession have always agreed that they would be willing to contribute a little money to some fund which would have for its object the enlightenment of the public on dental needs. Consequently the Dental Welfare Foundation proposed a plan that seemed to solve the problem more satisfactorily than anything that had ever been suggested.

After this plan had been adopted by the Board of Trustees and the House of Delegates of the National Dental Association, the criticisms began to come in. Let us consider the nature of the criticism and what it amounted to, and then we shall be better able to decide the justness of it.

One of the first criticisms was that the Foundation was organized by dental supply men for the purpose of furthering their own interests. This is a criticism which at the present time has very little justification, judging the action of the men most interested in the organization of the Dental Welfare Foundation. The action of the majority of the officers of the Foundation before and since its organization has been only such as would tend to show they are working for the benefit of the public and not for their own private interests. A few isolated cases have been brought to our attention where small dental dealers have attempted to use the foundation as a means of stimulating business among dentists and some have even attempted to use it as a means of selling goods to dental students. In all cases where this has been brought to the notice of the Dental Welfare Foundation, the privileges offered have been denied these dealers and they have been refused the authority to receive subscriptions from dentists to the Dental Welfare Foundation.

These acts of the officers of the Dental Welfare Foundation suggest that the officers at least are working for the education of the public, and if their plan is abused by a few dental dealers it is no worse than what the dental profession is confronted with when their code of ethics is abused by a few advertising dentists. We are sure no one would condemn the entire Dental profession for the unethical acts of a few dentists, so why should the entire Dental Welfare Foundation be condemned because of the acts of a few unwise dealers?

Another criticism is that "the public does not need more dentistry but better dentistry." We find this argument coming from a class of men who practice in communities or among a clientele that had been accustomed to appreciate dental services. Probably some of the most adverse criticisms have come from men who have select practices. A man with a well-established clientele among a more refined people can afford to say that his patients want better dentistry and not more dentistry, but this man is only viewing the dental situation from the confines of his practice, and has no opportunity to come in contact with the large number of people who need dental education and more dentistry, before they will be prepared to receive better dentistry.

The need of education is impressed upon us because we can view the situation from two sides, namely, from a private practice and an East-side dental clinic. The people we see in private practice are of the class that would not be reached by the work of the Dental Welfare Foundation. They belong to the group that need better dentistry. Of the patients we see in the clinic, the majority belong to the group that need dental education. This is proved by the fact that day after day we see little patients brought into the clinic, six and seven years of age, with the first permanent molars hopelessly decayed. The mother makes the statement that she thought it was a deciduous tooth. When informed that the first molar is a permanent tooth, she is willing to go to any means or do anything necessary to save the tooth, but the tooth is beyond saving, all because she did not have the proper education on dental subjects.

It is this large group that the Dental Welfare Foundation will reach, and it is this group alone that would justify any effort made by the National Dental Association, the Dental Welfare Foundation or by the individual dentist, to get information to them and save these little patients the decay of the first permanent molars. Better dentistry will do them no good because what the large middle class needs is education to avoid the decay of these teeth, and if they get this education experience has proved they will make even greater sacrifices than the upper classes in order that these teeth may be taken care of to avoid the suffering and pain that comes to a youngster from a decayed and aching first permanent molar.

We believe the criticism of the Dental Welfare Foundation is unjust and has been made by men because they do not appreciate the general dental situation so well as did the organizers of the Foundation. If the education which the Dental Welfare Foundation is sending out succeeds in saving but a few hundred first permanent molars, the effort will be worth while, and the movement will be one which should receive greater support next year than it has this year. To those men who are criticizing this movement we would suggest a more careful consideration of the Foundation, and that they be less anxious to criticize until they can suggest a more feasible plan that will be of more service to the large middle class that needs education.

—*Editorial from International Journal of Orthodontia.*

The Social Aspect of Preventive Dentistry*

By Irving Stier, D.D.S., New York City

Dentistry of today is witnessing a most amazing evolution in its principles of thought and practice. A new spirit is being infused into it—new ideals, new methods of procedure, awakening in the profession a new enthusiasm. The handwriting is evidently clearly on the wall, so that "he who runs may read," and it is only a matter of degree as to how legible it appears to us individually.

In examining dentistry from the standpoint of social usefulness one is forced to an ethical differentiation between radicalism and conservatism, progress and reaction, right and wrong. The subject then becomes so vast that much could be written on it. However, enough can be said briefly to make the issue sufficiently clear and comprehensible.

The results of comparatively recent scientific research have shaken dentistry so fundamentally that every progressive and open-minded dentist is forced to "sit up and take notice." We can no longer think in terms of a half or quarter of a century ago. Dentistry has been challenged to show the integrity of its purpose and to prove the wisdom and safety of its procedures. Whereas years ago, we thought of dentistry as a luxury for the wealthy or as an institution for the alleviation of pain, today we realize that mouth conditions are so vital in their relation to general systemic conditions that a consideration of the fundamental principles of dental practice assumes increasing importance.

* Read before the New York Chapter of the American Academy of Applied Dental Science, April 21, 1922.

For more than half a century dentistry was recognized as and understood itself in terms of refined mechanics. To this very day many of us still think in terms of fillings, crowns, bridges and plates, and at that not as a means to an end but as the very end itself. That many of the things we have done in the past in an effort to save teeth have resulted in disease and therefore constituted a menace to public health, is sufficiently open a secret to deserve frank admission. The recognition that systemic infection may gain entrance to the body through the oral tissues, and that all systemic disease due to such infections are preventable, is establishing new principles of thought and new methods in dental practice. In the light of so important a recognition it becomes necessary not only to justify the need of a new and larger professional vision but also to establish in unmistakable terms Dentistry's mission in the scheme of social life and its responsibility to public health.

Modern Criminology deals with the prevention of conditions, influences and tendencies that make crimes possible. Modern Sociology concerns itself with prevention of the evils which bar the majority of human beings from the attainment of a state of well-being and happiness. And modern medicine and dentistry should approach all health problems from the point of prevention rather than half-cure or superficial patching-up. It is only recently that the more liberal and progressive minded have dared brave the storm of ridicule of the ultra-conservatives and openly declared their honest conviction. More of this is necessary especially in the field of root canal therapy and subsequent periapical conditions. We owe it to our patients; we owe it to the profession and moreso to our own selves. There can be no hopes of attaining the long sought for goal in dentistry until the dentist boldly asserts the truths that are presented to his notice in every-day practice. To attempt to disguise the truth or to utterly turn a deaf ear to self-evident facts is only retarding the development of both the well-meaning but ill-informed dentists and the multitude who depend upon their services. A great many people have come to that point of mental development where the dental progress of recent years and the conclusions crystallized from it is becoming easily acceptable. It is the obligated duty of those who are in position to know, by reason of their calling, to make the issue clear, at least to themselves. Do you look back affectionately to the old days? Do you rejoice in the thought, "if only things could go on just the same." Or do you answer with a proud belief in the future? Time waits for no one. Results of scientific investigation are forcing upon the open-minded a distinction between right and wrong, and sooner or later one must make a choice. Those who in fear, either for self-preservation or loss of position, cling to the ultra-conservative or assume an attitude of indifference in the

face of existing conditions and evidence bearing on them, are doomed ultimately to bitter disappointment.

It is a great feeling to be able to realize that one really is part of the great human urge toward one great purpose. Every intelligent, honest, social-minded man must be alert to the progress and need of the times and be ready to think and act in conformity with it. In its social aspect no professional service can be truly ethical which does not give of the "highest good to the greatest number," and that is possible only on the basis of prevention. Of course, to overlook or neglect entirely the immediate needs of the present in favor of the remote future is nothing short of folly. The sooner we plant that firmly in our minds the better. After all the educational propaganda we may do among the poor who are generally the ignorant, the fact remains that the vast majority of them can never afford the old type of dental service. Old dentistry is expensive at any price. The only hope of the future in dentistry lies in a persistent and systematic prosecution of oral prophylaxis and the establishment of all procedures in dental practice on the principles of prevention. Only so can dentistry justify its claim to a rightful place in the healing profession and to social usefulness.

537 5th Avenue.

The Bacterial Origin of Dental Caries

By McIntosh, James, and Barlow
In the London Lancet

Although dental caries is a widespread and almost universal disease, at the present moment little is definitely known of the causal agent or agents. Of the many theories propounded perhaps the parasitic theory has received most support. The modern or chemoparasitic conception of this theory originated with Miller's brilliant researches on the subject from 1880 to 1890; he regarded acids produced by the fermentation of carbohydrates by bacteria as the primary factor. As bacteriology at that time was in its early stages, knowledge and technique were not sufficiently advanced to identify and isolate bacteria found, and much of his work was therefore of a morphological character. Yet this work into the histology of the process of dental caries is regarded as a classic on the subject.

Since Miller's time a number of researches have shown that a large variety of bacteria are to be found in the mouth and in dental caries. With regard to dental caries, Goadby described some 18 types which

he subdivided into acid-producing types and dentine liquefiers. Kligler identified 10 different groups. Howe considers two types of bacteria grouped by him under the name Moro-Tissier are most frequently present in dental caries. These investigations, however, have been described as researches into the bacterial associations of dental caries.

In natural caries the pathological process is well understood, the condition usually beginning on the crown and particularly in the fissures and at points of contact between the teeth. Microscopically, the first sign is the appearance of a small chalk-white area on the enamel. The process continues, the enamel prisms break down and are removed. The dentine is now attacked and it, like the enamel, is decalcified and destroyed until the tooth pulp is reached. In the affected dentine bacteria (bacilli, cocci, etc.) can be demonstrated with considerable ease.

The constant presence of bacteria even in the deeper layers of carious dentine suggested to us that it was unlikely that all the bacteria were merely secondary invaders in already damaged tissues. But the variety of micro-organisms present, together with the results of former investigators, convinced us that it would be necessary to employ some selective method of isolation. As the first stage in dental caries is a destruction of the enamel by decalcification, it was considered that if bacteria play an important role in the aetiology, they must be capable of bringing about such a change. This necessitates that the bacteria can produce sufficient acid to bring about decalcification.

The selective technique we proposed to use was a very acid medium, as it was reasonable to suppose that bacteria which can produce a high concentration of acid are also capable of living in a very acid medium. By the use of this medium we succeeded in killing off or inhibiting most of the contaminating bacteria, leaving us with a certain type of microbe which we regard as the chief aetiological agent in dental caries.

TECHNIQUE OF ISOLATION

The first procedure was to determine experimentally the degree of acidity required to decalcify enamel. Normal teeth—i. e., teeth showing no caries—were placed in acid broths of different pH values from 5 to 1, and after autoclaving, left for 34 weeks. At the end of this time the degree of whitening or opacity of the enamel was noted, and it was found that a greater degree of acidity than pH4 was necessary to attack the enamel.

Carious teeth were obtained from the dental out-patient department and from two private practices in order to procure material from a wide source. After passing the tooth through the flame the superficial part of the carious material was removed with a sterile scalpel, and the deeper part taken and emulsified in broth pH 7-6. After 24 hours' incubation broths of varying degrees of acidity were heavily inoculated,

and from these agar-plates were inoculated after 24 or 48 hours. At first the acid broths used varied from pH 7 to pH 4.5, and later higher concentrations up to pH 1 were tried. After a short time the most successful method was found to be to emulsify the carious material in pH 3.5 broth direct, as in this the majority of organisms from the tooth fail to grow.

PRODUCTION OF ARTIFICIAL CARIES

In estimating the aetiological importance of a virus it is necessary to judge the effects of the virus or, better still, of pure cultures on the normal tissues, as pathological changes comparable with those found in the spontaneous affection should follow the application of the proper aetiological agent. In the case of teeth the problem is complicated by their peculiar composition, necessitating a prolonged experimentation. The experiments described here were all done *in vitro*, full details of which are given in our paper in the British Journal of Experimental Pathology.

Non-carious teeth were placed in glucose broth and sterilized; various strains of the bacilli were then inoculated into the broth; control inoculations were made with *Streptococcus salivarius* and *B. coli*. Every eight days the teeth were removed from the culture and placed in fresh uninoculated glucose broth under sterile conditions, so as to prevent the teeth remaining continuously in an acid medium in which the bacteria soon die. Sufficient bacilli were carried over on each tooth to inoculate the fresh broth.

The primary lesion observed in our experiments is a whitish opacity of the enamel similar to that of "natural" caries; the change is not uniform in that in some areas the penetration is more marked than in others. Sections show a granularity of the enamel prisms and fragmentation, but bacteria so far have not been definitely demonstrated in the enamel, nor have they in "natural" caries.

CONCLUSIONS

1. The examination of selected carious material showed the constant presence of a definite type of bacilli.
2. These bacilli are capable of forming a high degree of acidity by the fermentation of carbohydrates.
3. Teeth left in contact with cultures over prolonged periods showed changes almost identical with "natural" caries—erosion of the enamel, penetration of the dentinal tubules, and the formation of liquefaction foci.
4. These bacilli in their resistance to and formation of acid resemble the acidophilus group of Moro; biologically, however, there are

several points of difference. To the bacilli we propose to give the name *B. acidophilus odontolyticus*, Type I. and II.

5. The successful production of artificial caries by pure cultures of the organisms isolated goes far in establishing the microbic theory of caries.

A Review of the Blood and Urine Examinations in 200 Cases of Chronic Focal Infection of Oral Origin

By Albert M. Crance, M.D., Geneva, N. Y.

Acknowledging that the subject of focal infection has been written upon to an almost exhaustive extent, there has, however, been little said or written about the effect of chronic infection of this type upon the blood and urine pictures. In reviewing two hundred cases which were definitely classed and diagnosed as focal infection, there has arisen a definite conclusion to be drawn therefrom. A total number of 1,574 cases were reviewed in order to obtain 200 clear-cut focal cases. In such instances where tuberculosis or syphilis might even have been a suspicious factor, they were stricken from the list.

Review of Cases.—One hundred and two were males; ninety-eight were females. 179 of the cases presented definite dental infection, out of which number 118 showed definite apical abscesses, either with or without pyorrhea. Sixty-one of this number showed pyorrhea and rarefaction alone with no apical abscesses.

157 cases showed definite infection in the tonsils. 151 cases presented enlarged submaxillary nodes.

Blood Examination.—The average haemoglobin was 75.8 per cent.

The red-cell count was apparently but slightly affected. Only eleven, or $5\frac{1}{2}$ per cent of the cases gave a count below four millions.

The white-cell count may be tabulated as follows:

No. of Cases	Percentage of Cases
58 ranged between 6000 and 6800.....	29
55 ranged between 5000 and 6000.....	27.5
9 ranged between 4000 and 5000.....	4.5
3 ranged between 3000 and 4000.....	1.5
0 ranged between 2000 and 3000.....	0.0
1 ranged between 1000 and 2000.....	0.5

In other words 63 per cent of the cases showed a definite leucopenia.

A differential count was made in nearly all of the cases, but there was found to be very little deviation from the normal. There was apparently nothing of definite interest.

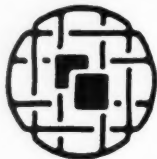
Urine Examination.—The urinary findings are very interesting. One hundred twenty-four, or 62 per cent of the cases showed a definite albuminuria, out of which 90, or 45 per cent, were in class 1; 23, or 11.5 per cent, in class 2; 5, or 2.5 per cent, in class 3; and 6, or 3 per cent, in class 4.* Two, or 1 per cent of the cases gave a positive sugar reaction.

Discussion.—There are apparently two outstanding features in cases of chronic focal infection. One is that the majority show a leucopenia; the other is that a high percentage of the cases present an albuminuria. The fact, that a leucopenia in any given case is an evidence of lowered body resistance, gives rise to an important factor in treatment, whether it be medical or surgical. It seems perfectly obvious that, if certain foci of infection are keeping the body resistance in any way below normal, the foci should be removed before the best results may be expected to be accomplished. The fact that 62 per cent of the cases showed a definite albuminuria seems to be quite sufficient evidence of the relationship between oral infections and albuminuria. In this paper, the writer does not desire to discuss the treatment of albuminuria, but it may be mentioned that by removing chronic foci of infection in such cases it has been observed that the albumin disappeared in a rather high percentage.

Conclusions.—In this series of 200 clear-cut cases of focal infection, 63 per cent showed a definite leucopenia and 62 per cent a definite albuminuria.

—*The Medical Record.*

* Classes 1, 2, 3 and 4 refer to the degree of albuminuria—1 noting a definite small amount of albumin, and 4 an albuminuria of very severe degree.



FUTURE EVENTS

There will be a meeting of the ALPHA OMEGA CLUB OF NEW JERSEY, on Thursday evening, September 21, 1922, at DeJianne's Restaurant, 17 Central Avenue, Newark, N. J. All members are welcome. An elaborate smoker and a splendid program have been arranged for the evening.

HENRY H. FINGERMAN, *Chancellor*,
1 Alpine St., Newark, N. J.

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination October 3, 4, 5 and 6, 1922. Applications for this examination should be on file at Room 146, State House, Boston, at least ten days in advance of examination.

J. N. CARRIERE, D.D.S., *Secretary*.

THE EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, First District, N. Y., will resume its regular meetings on Tuesday, October 10, 1922, 8 P. M., at the Academy of Medicine, 17 West 43rd St., N. Y. City. The Program Committee announces that highly interesting and instructive programs have been prepared for the coming season. A number of classes in special instruction will be provided for the members and a very active season is promised.

Dental Assistants who are interested to become members of a live-wire organization are invited to communicate with the Secretary, Mae L. Bennett, 104 E. 40th St., phone Murray Hill 8685, or with the President, Juliette A. Southard, 174 W. 96th St., phone 3690 Riverside.

A cordial invitation to attend the meetings of this society is extended to the dentists of New York and vicinity. The meetings are held on the second Tuesday of each month, from October to May inclusive.

The 59th annual meeting of the SUSQUEHANNA DENTAL ASSOCIATION OF PENNSYLVANIA, will be held at the Hotel Casey, Scranton, Pa., October 25, 26, and 27, 1922. George C. Knox, Recording Secretary, Middletown, New York. D. S. Gardner, Chairman of the Executive Committee, Scranton, Pa.

The Twenty-eighth Annual Meeting of the NEW ENGLAND DENTAL SOCIETY will be held at the Harvard University Dental School, Boston, Mass., October 26, 27, 28, 1922.

ALVIN A. HUNT, *Secretary*,
902 Main St., Hartford, Conn.

Thirty-fifth annual meeting of the NORTHERN ILLINOIS DENTAL SOCIETY will be held at Rockford, Ill., on October 18, 19, 1922.

B. H. BIGLOW, *Secretary.*

The next examination by the MICHIGAN STATE BOARD OF DENTAL EXAMINERS to be held in this state for those seeking license to practice dentistry in Michigan will be held in the city of Ann Arbor, at the Dental College, November 13th to 18th, 1922, inclusive.

All information relative to credentials, blanks, etc., may be had by addressing
DR. E. O. GILLESPIE, *Secretary,*
745 David Whitney Bldg., Detroit, Mich.

The annual midwinter clinic of the CHICAGO DENTAL SOCIETY will be held at the Hotel Drake, January 18, 19, and 20, 1923.

All members of the National Dental Association are invited to attend. Ethical non-member practitioners, making application for membership at this meeting, will be admitted.

Hotel reservations should be made direct with the hotel management.

For further information, please communicate with

M. M. PRINTZ, *Secretary,*
25 E. Washington St., Chicago.

THE MICHIGAN STATE DENTAL SOCIETY will hold its annual Convention on March 27th to 31st, 1923, in Detroit. For information, write Bion R. East, 504 Fine Arts Building, Detroit, Mich., Chairman Local Arrangements Committee.

The next annual meeting of the KENTUCKY STATE DENTAL ASSOCIATION will be held in Louisville, Ky., April 16, 17, 18, 19, 1923, Seelbach Hotel as headquarters. A clinical program of unusual interest is being arranged.

E. C. Hume, President; Wm. M. Randall, Secretary, 1035 So. 2nd Street, Louisville, Ky.; Geo. H. Means, Editor of Program and Master of Exhibits, Cherokee Apartments, Louisville, Ky.; Robert L. Sprau, Chairman of Executive Committee.

The annual meeting of the NEW YORK STATE DENTAL SOCIETY will be held in the Commodore Hotel, New York City, on May 9, 10, 11, 12, 1923.

WALTER E. FANCHER,
Chairman Publicity Committee.

